The OIL WEEKLY

A Journal for
Oil and Gas Producers and Field Men

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NEW YORK
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CHICAGO

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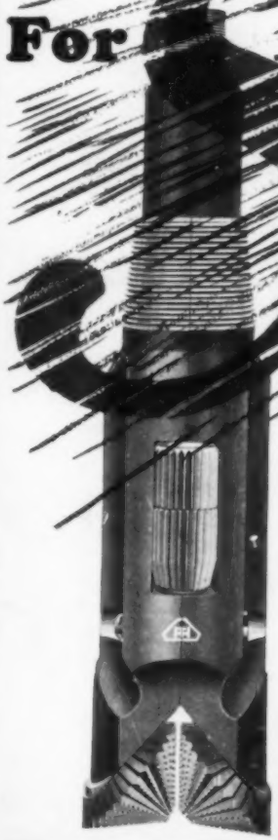
For SPEED



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The strength and cutting efficiency of Hughes Simplex Rock Bits are due to design, material and workmanship. These superior features have built for them a reputation throughout the oil industry for speed, safety and economy in drilling.

Operators and drillers in the rotary fields of the world are depending upon Hughes Rock Bits whenever rock is encountered.

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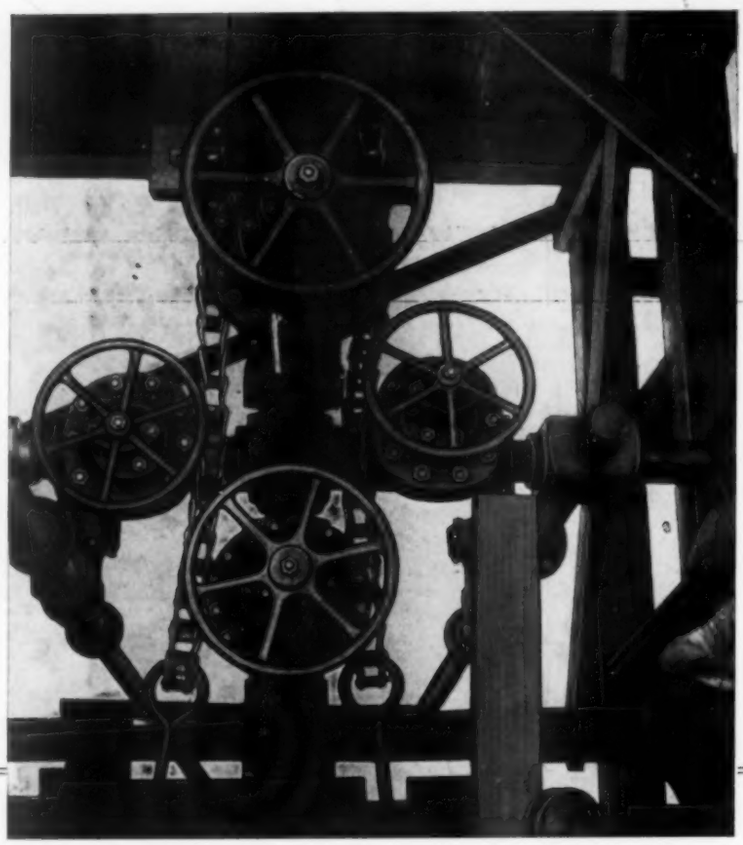

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After the damage is done it is easy to think of many things that would have prevented it.
Therefore, practice foresight and use KEROTEST CAST STEEL Valves and Fittings.
Kerosene tested under high pressure insures absolute tightness, and perfect valves in every respect.
The Electric Ilmenite Steel Castings used throughout and the Wedge Gate Type of Design assure utmost Strength, Continuity of Service and Positive Action.
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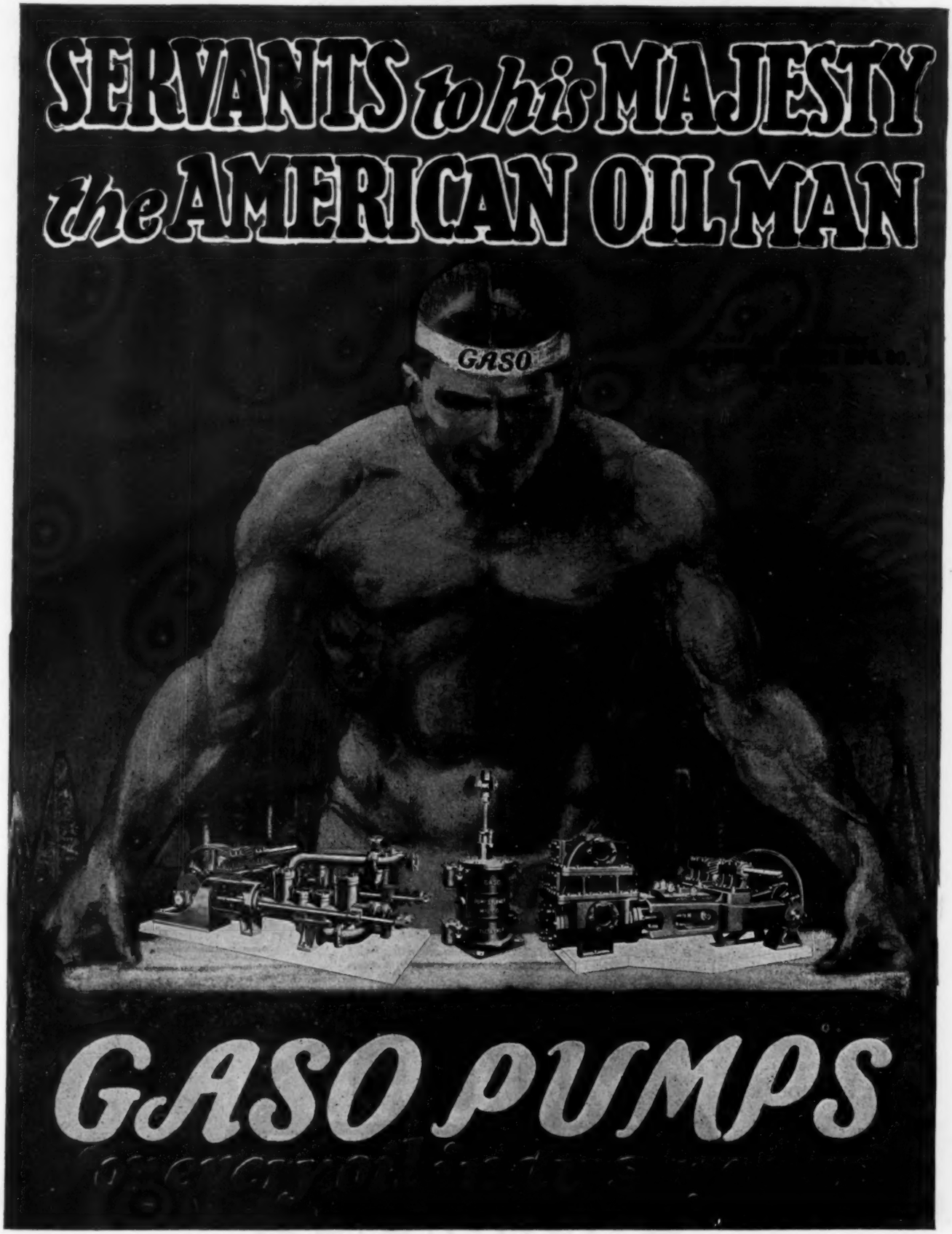
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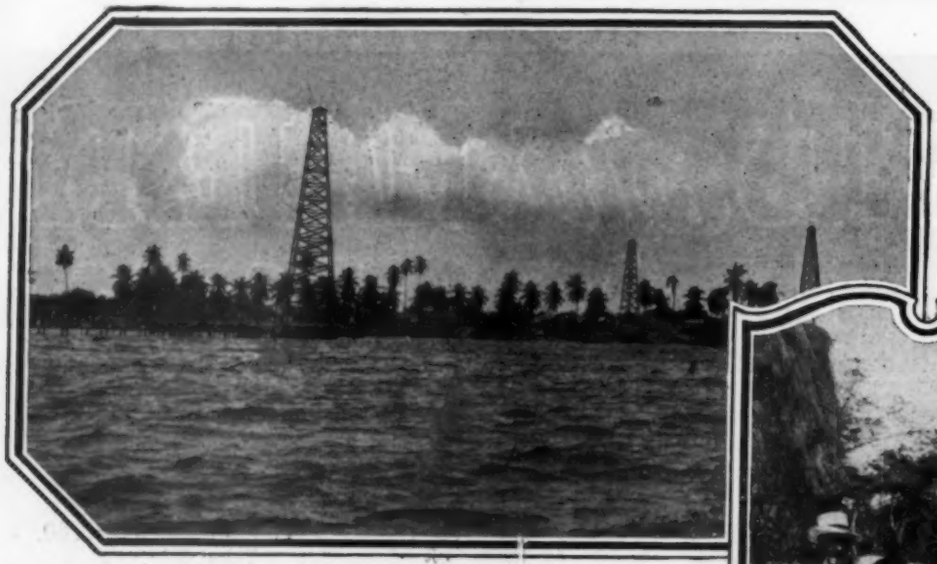
the AMERICAN OIL MAN
GASO
GASO PUMPS



Moore drilling derricks in La Rosa Field, on Lake Maracaibo, Venezuela. Well on left making 4500 barrels.

Another kind of "petting party." Mr. C. W. Hamilton, well known American oil man, in intimate conversation with one of his Venezuelan friends. (We are sure the Madam will not object.)

They "come high" in Venezuela

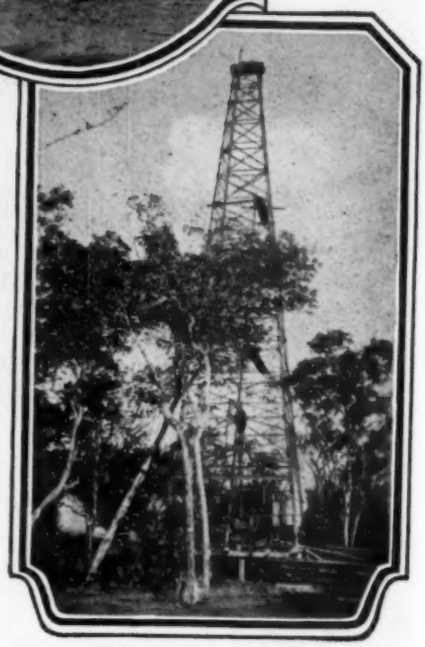
112-foot Moore Derricks 4500-barrel Well

IN Venezuela fields, as elsewhere, wherever you go the familiar sight of Moore derricks greets the eye. Scores of these large and powerful drilling derricks are in use in these fields, and more are constantly being added, proving the truth of the saying that nothing succeeds like success.

The two derricks above are 112-foot Moore Combination drillers, in La Rosa Field on Lake Maracaibo. The one on left is making 4500 barrels. The one in center is now drilling.

Proof against wind, fire, rot, and insects, Moore derricks render invaluable service in safeguarding production and heavy drilling investments.

Send for Catalog



Another 112-foot Moore Driller. In Irara Field, near Maracaibo, Venezuela

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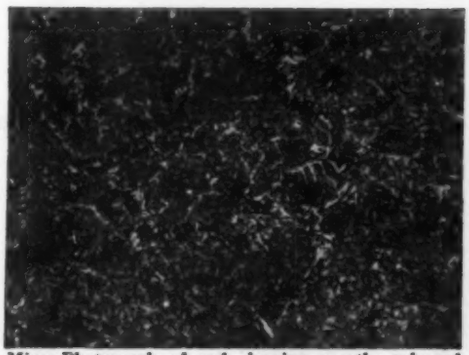
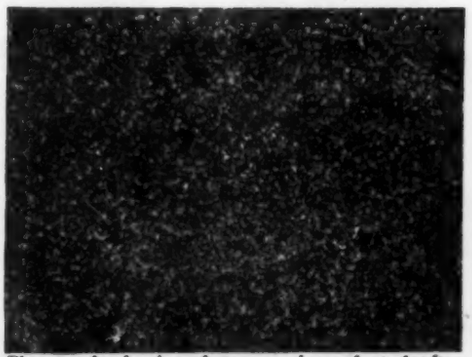
The Same **OUTSIDE** — *but far different* ***INSIDE***

THE NEW JONES FORGED END RODS



Micro-Photograph of rod showing greatly enlarged grain structure of Sucker Rod Steel when it has been heated to a forging temperature and cooled in air.



Photograph showing the same piece of steel after being normalized. Note the dense grain structure, which results in greatly increased strength.

THE Forged ends of the new JONES RODS are unlike any other forged end rod, because first: the great care used in the forging operation to assure an even flow of metal—and, second: the heat normalizing treatment, which tends to restore the metal to its original structure.

There are no defects in JONES Forged End Rods, made of special analysis steel, with the perfected forged ends, they are today the finest, strongest sucker rods made.

Try them and prove our claims.

A booklet, the "Inside Story" is ready for you—may we mail you a copy?

The S. M. JONES Co. Toledo, Ohio.

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"Better Get a Lucey Twin Cylinder on this Job."

"It's the best Unit I know of for driving rotary drilling equipment. It has a wide range of speed,—extremely sensitive—practically no vibration,—perfect reverse action and it can't possibly stop on dead centers."

Wherever THE NAME IS A LUCEY GUARANTEE there's Oil

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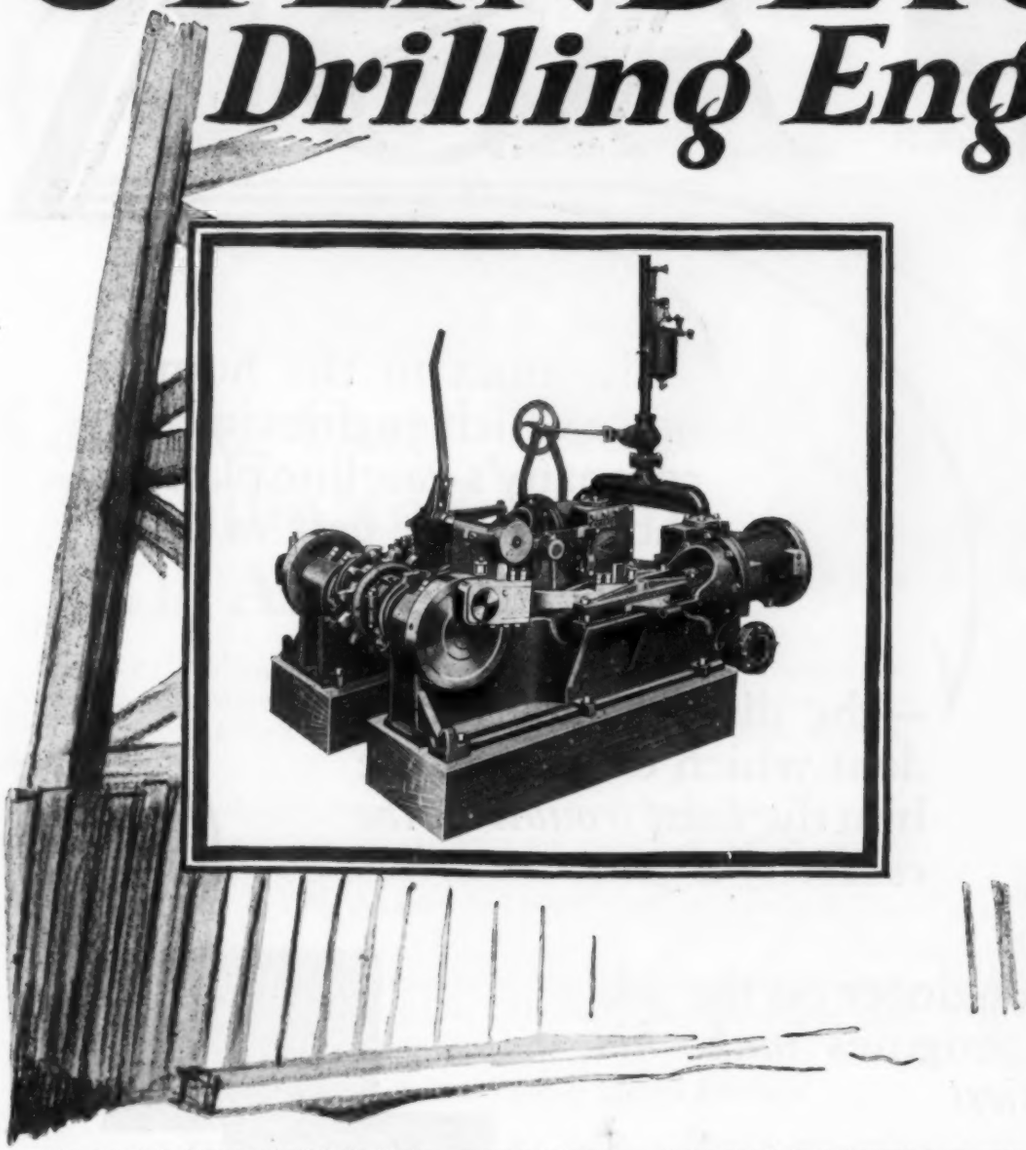
CYLINDER
Drilling Engine



Features of the Lucey Twin Cylinder Engine you ought to know and be familiar with:—

Simple in that it is made of few parts.

Rigid because the beds, base and valve stem guides are made in one casting,—a feature which also insures accurate alignment.

Accessible on account of its design—all moving parts can be readily reached and adjusted.

All wearing parts—such as connecting rod brasses, valve stem guide, link and crosshead,—interchange with our standard single cylinder engine.

All eccentric hubs and sprockets are made in halves and are easy to remove.

Easy to reverse due to balance and design of reverse link suspension.

Throttle valve manifold can be furnished to take throttle valve in center—as shown by the illustration—or offset to one side.

Regularly furnished in 10-inch by 10-inch size.

Any Lucey Branch will be glad to give complete information about this remarkable driving unit.

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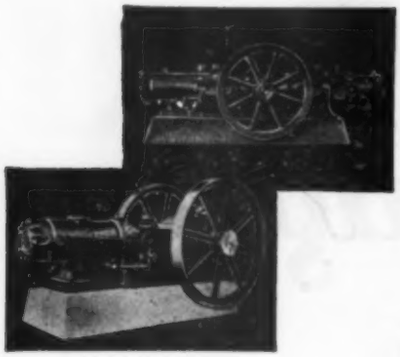

ASK

—the man in the home office which engines in his company's gasoline plants show up the *best in the monthly reports.*

—the district superintendent which engines cause him the *least trouble in the course of a year.*

—the engineer on the job which engines *make his job easiest*

And the answer in an overwhelming majority of cases will come back

BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

THE BESSEMER GAS ENGINE COMPANY 62 YORK STREET, GROVE CITY, PA.

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Cutting Out Trouble and Waste All Along the Line

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Ribs, arms, or devices to guide the parts or to keep them from separating in the operation of the valve are not needed or used in Darling Gate Valves. Nor are there any corners or pockets to catch scale or sediment to interfere with the easy and positive action for which Darlings are famous.

Revolving Discs seat at a different place each time the valve is closed, insuring uniform wear and long life. Although Darlings seldom ever need attention they are the easiest repaired in the field.

On your next installation it will pay to specify Darlings.

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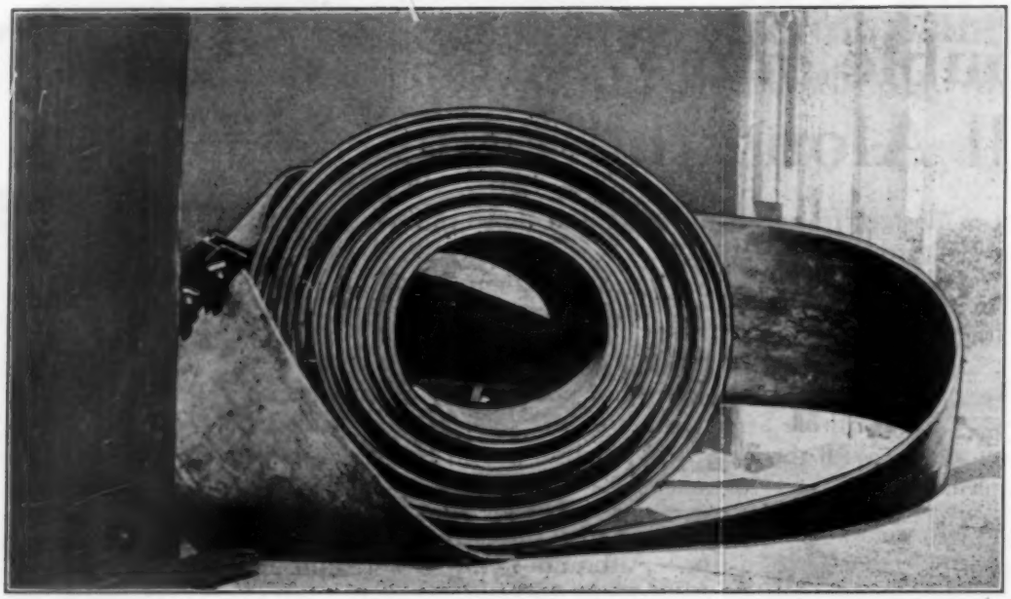
DARLING GATE VALVES

This Belt Has Drilled 6 Wells



This belt has drilled 6 wells for Rosier & Pendleton at Breckenridge, having a total footage of 20,000 ft., straight reamed 1200 ft. of hole for 8¼" Casing, underreamed over 200 ft. and fished about 45 days. The present condition of the belt indicates that it will drill two and possibly three more wells.

VOORHEES RUBBER MFG CO
TRADE MARK

Thus far this belt has not given any clamp troubles, having had ordinary drilling belt clamps used as are ordinarily used on all drilling belts. No signs of ply separation can be found on the belt. Very little has been cut from the belt as a result of stretching, and on the last well the belt was not cut at all on account of stretch-

and Is Still in Good Condition

ing as it happened to be the proper length for the rig when placed on the pulley and band wheel.

The loop shown in the picture shows the wearing side of the belt, which is uniform from end to end.

The time on each well drilled averaged about 65 days and possibly more, making a total of actual drilling time about 400 days.

None but a Sensation Belt could do this. Made of special weave duck that allows very little stretching and the plies are held together by a special friction, the result of years of experience. There is no ply separation (bootlegging) or riding the clutch. Forms perfect contact with pulleys. It is strong, flexible and weather-proof.

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General Offices & Works WICHITA, KANSAS

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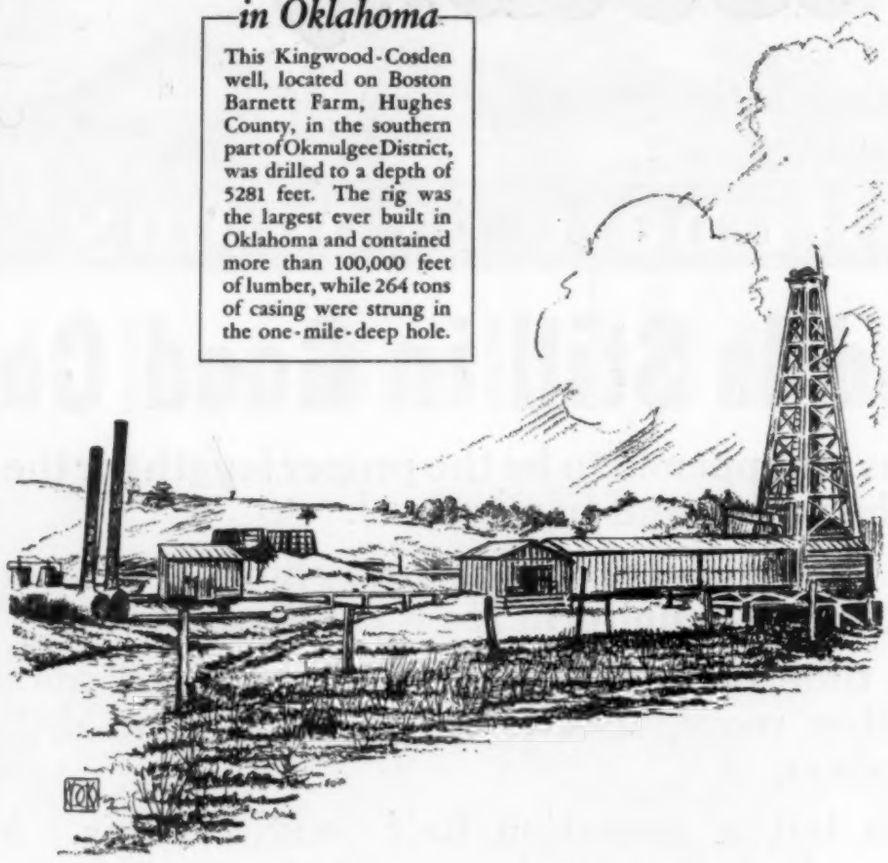
This Kingwood-Cosden well, located on Boston Barnett Farm, Hughes County, in the southern part of Okmulgee District, was drilled to a depth of 5281 feet. The rig was the largest ever built in Oklahoma and contained more than 100,000 feet of lumber, while 264 tons of casing were strung in the one-mile-deep hole.



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100% UNIFORM

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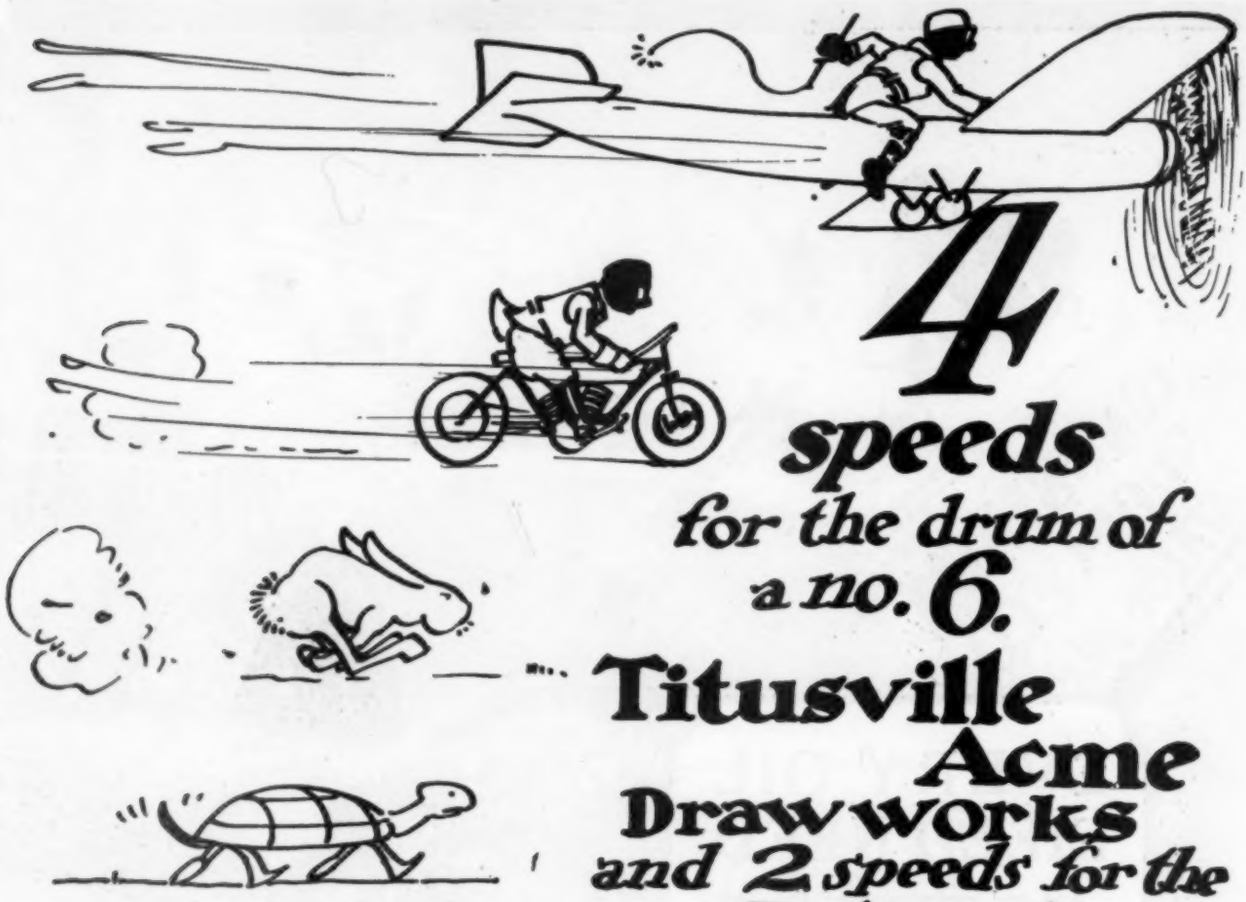
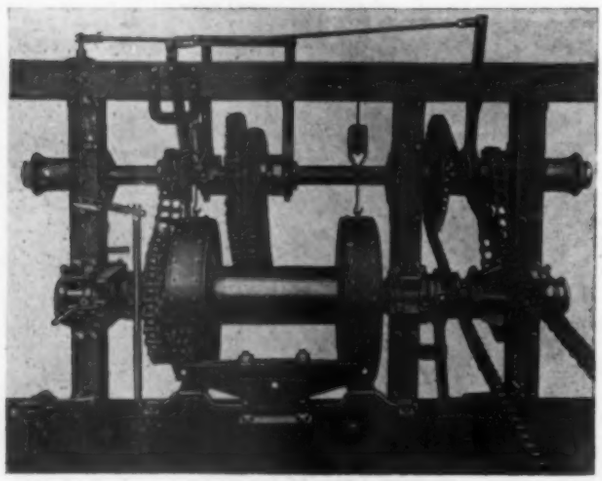


4 speeds for the drum of a no. 6. Titusville Acme Drawworks and 2 speeds for the Rotary ~



The New Titusville Acme No. 6 Drawworks, showing the Brake Equalizer and non-spread Drum. Ask any Continental Supply man for particulars.

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Reg. U. S. Pat. Off.

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Reverse Lever Side. Note that links are lifted from the top, eliminating side pull on the links. This is an original feature in the design of this engine.

A Great Engine to Handle

Have you had your hand on the throttle of the Ideal Twin Drilling Engine? Oh man, but what a world of power there is in such a comparatively small engine. Yes—the Ideal Twin has more horse power for its weight than any other Twin drilling engine.

The Ideal Twin Drilling Engine, designed for faster rotary drilling, leads the oil world the same as the single Ajax Engine has led for so many years.

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Ajax Iron Works

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Wm. S. Barnickel & Company

St. Louis, Mo.
Offices and Plant: Webster Groves, St. Louis Co., Mo.

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Why Blame the Producer?

Whenever economic depression hits the petroleum industry accusing fingers point toward the producer.

Over production are the two words accepted as expressing the whole trouble.

Every opinion advanced for solution of the predicament deals only with reducing well output or curtailing drilling.

Still "under consumption" expresses the plight of the oil business as well as over production. In fact economic depression of oil may be as much the fault of the sales branch of the business as it is the fault of the producing branch.

It is largely a matter of viewpoint. And the unjust part of it is that the common viewpoint directs all blame to the producer. At certain periods the cry is "run the drill." Then when stocks begin to accumulate, the cry turns to "over production."

Were all this hue and cry of complaint turned to finding wider outlet for petroleum products, conditions would be more just as far as the producer is concerned and some relief might be found for relieving the pressure of economic depression.

The strange part of it is that men, who must know better, are first to urge relief through lowered output and less drilling. The men of other branches of the business surely know reducing oil production ranks up next to the realm of the impossible.

No one would think of shutting down a flowing or a pumping well. It may be unprofitable to operate it. But when its condition after a period of shutdown is considered, operating it becomes highly profitable.

And there is nothing singular in the fact that meetings of producers to decide on drilling curtailment programs come to nothing. When the price of oil is low, the type of well that offers a chance for profit is one of the flowing class and the larger its output, the greater the immediate profit. One well of this class will offset the loss on a score of pumping wells.

Taking the industry as a whole, drilling wells in flush pools may be bad policy in times of low prices. But the individual oil producer can not see the industry as a whole. He must view the situation from his bank balance and this tells him that one big flowing well will tide him over until prices are better.

Then there are drilling contracts, lease obligations and line protection to prevent drilling curtailment.

What the pertoleum industry needs in time of economic depression is not direction of blame toward the producer. It needs a program that will help the producer.

Anything that will permit the oil producer to become a business man will surpass accusing him of all blame when the industry is in a predicament.

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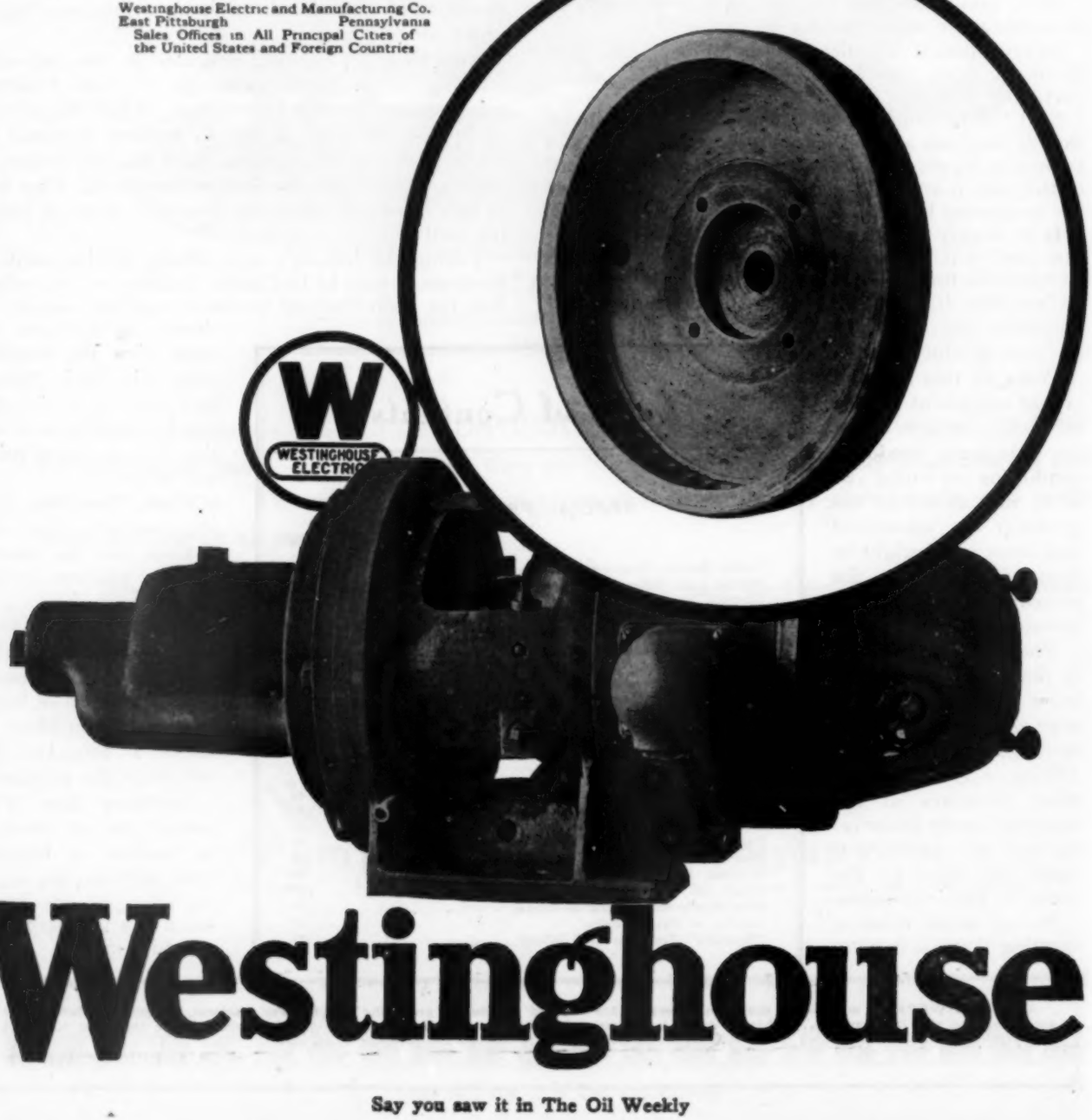

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Crude Market Improvement Continues

However there is a threat in more oil in Oklahoma and possibilities of a new Texas field

A GRADUAL improvement in the crude oil market is still under way, although production in some sections is showing signs of reviving. This is true in Oklahoma for the last week where an increase of around 14,000 barrels in daily production is reported. This is the first increase of importance in that state since last September when the crude output reached its peak. This increase came almost wholly from the Gilcrease-Papoose pool in Okfuskee and Hughes counties and from the deep sand area in Tonkawa.

Reports that both the Prairie Oil & Gas Company and the Sinclair Crude Oil Purchasing Companies are now drawing on storage to a slight extent to make up in current deliveries are not officially confirmed by either company, although it is known that Sinclair is about balanced as respects current receipts and deliveries and this is believed to be true with the Prairie. However, there is good reason to believe that by the first of the year both of these companies will be drawing on storage to an appreciable extent. This drain on storage will be even more pronounced if there is no increase in the posted price schedule during the remainder of the year.

A contributing factor in the present improved situation in the open crude market is the decision of some of the large producing companies in the Mid-Continent field to storage their own crude rather than dispose of it at present posted quotations. This has kept considerable new production off the market, virtually all of which is high gravity crude and would command the top grades in the price schedule. This crude, of course, is being held for higher prices. Among the companies who are storing their own oil are the Amerada Petroleum Corporation, Lew Wentz, T. B. Slick, Pennok Oil Company, and others.

In the East

The crude oil storage situation in the east remains acute and to all appearances only an increase in price sufficient to induce producers to turn loose of some of their oil will relieve conditions. An increase in the Appalachian region is believed imminent and likely will precede any advance that may be posted in the Mid-Continent field.

There is no appreciable change in the crude oil situation in the Rocky Mountain states, where production continues to decline with the closing in of winter.

New Field Probable

The completion of a wildcat oil producer on the Wortham structure, located between the Mexia and Currie fields in the East Central Texas fault region, with a second wildcat on the same structure drilling in with most favorable indications of making a good well are the first disturbing factors to arise since the Mid-Continent crude market began gaining strength early in October. That a field of considerable proportions exists at Wortham is to be expected since the two wildcats now in the Woodbine sand pay are 8000 feet apart, and in excess of 50 locations and drilling tests have followed in the wake of the first show of oil in commercial quantities obtained late last week. Lease owners are accepting the early performances of the two wildcats, which were drilled by Col. A. E. Humphreys, who is operating under the name of the Boyd Oil Company, as sufficient encouragement to launch a rapid fire drilling campaign for the flush production.

Oil field labor and drilling equipment are being rushed to Wortham to push the development program now getting under way, and in the event the Boyd Oil Company's two wildcats continue to show up favorably when completely drilled in this week, the number of new locations will mount daily. Completions will begin scoring in rapid succession about the middle of December, as rotary equipment is used entirely and formations are easier to negotiate with fishtail and rock bits than was experienced at Mexia and Corsicana-Powell, thereby threatening the crude market with a large volume of flush production, if the structure fulfills the present estimates of its potentialities.

Except for water, the Wortham structure is ideally situated for the development of a big flush production in less than six weeks, as seven major pipe lines are situated close at hand, and surplus storage tanks in the Mexia and Corsicana-Powell fields are available for use. The acreage is largely held by companies that participated in all previous fields in the East Central Texas fault region, and leases are in small tracts, including drilling sites in the town of Wortham. These lease owners have learned through the school of experience that offsets must be matched well for well, as the flush production from the Woodbine sand pay is short lived. Water for drilling purposes is somewhat scarce, and it is the only impediment possible to hinder a big drilling campaign, as the oil market is not considered when a fault field is discovered, as was illustrated in 1923 when the Corsicana-Powell field was drilled up in the face of a serious overproduction.

Whether the oil strike at Wortham will forestall an early rise in crude prices remains to be seen, as the crude market has been gaining strength gradually since early in October and the demand for more oil is being made by major companies and independent refiners. The removal of restrictions on drilling in the North Texas district about two months ago has sent daily production of Archer county to a new peak level, and during the past week this county jumped to about 40,000 barrels daily, or a gain of more than 7,000 barrels. The South Vernon field, Wilbarger county, has increased its daily output to more than 5,000 barrels, while a new completion in the Big Lake field, Reagan county, early this week raised the daily average for the Big Lake field to about 10,000 barrels.

Humble Pipe Line Company has begun work on the construction of a second six-inch line from its Fambrough pump station, located near Breckenridge, to the Swastika station in Southern Archer county, a distance of about 46 miles, in order to take care of crude contracted for and promised in Archer, Wilbarger and Wichita counties. This new six-inch line will parallel the one completed last month. Humble is reported to have contracted to furnish three cargoes of high gravity crude, possibly Corsicana-Powell crude, to the Cities Service Refining Company's refinery in Massachusetts at a premium above the posted price, and shipments are to begin this month. The Sinclair Pipe Line Company is reported to be drawing on its high gravity crude stocks in the Burkburnett district at the rate of 500 barrels per hour, and pumping same to the Gulf Coast for delivery to the Atlantic Refining Company on a crude contract made early this year for a total of seven million barrels extended over a period of three years.

North Texas Premiums

Premiums on spot crude in the North Texas district range from 15 to 25 cents per barrel above the posted price, and some refiners report crude available only in very limited quantities. Refiners continue to seek contracts on daily runs of crude, and are offering bonuses ranging from 7½ to 15 cents per barrel. Speculators have tied up a large quantity of storage oil in the North Texas district since the favorable outlook for the crude market developed, and are endeavoring to increase their purchases with a small premium offered in addition to agreeing to pay storage charges.

Firm in California

Especially fuel oil is firm in California with indications that the demand this winter will be strong and much

(Continued on page 48.)

Wilcox Sand Offers New Kansas Pools

Cheap drilling and ready market lure operators to deeper drilling in old fields

By W. Lee Sloan
Staff Representative

Independence, Kans., Nov. 24.—Although it has been more than a year since the advent of the first well in the second break in the Mississippi lime in the counties centered around Montgomery county, Kansas, the real interest in the potentialities of the district has only been directed to that area in the past three months.

This derrick at the T. R. Cowell well, section 1-32-17, Labette county Kansas, drilling to the Wilcox sand, shows the only standard rig for a radius of 40 miles

During the past few years it has been a difficult matter to outline the structures of the counties on account of the flat topography of them. As a result of the absence of geological data, the operators have been prone to start their drilling operations upon large blocks in the hopes of finding small production rather than confining their operations to well outlined geological information. A historical analysis of the past few years shows that 43 wells were found to be dry in the Wilcox sand, as the result of drilling on large blocks.

The presence of oil and gas in Montgomery and surrounding counties is not recent history as both have been produced in commercial quantities for the past 23 years, however, the oil produced was not of such large quantities that development should receive much encouragement. What production the operators found before the advent of the Wilcox sand or the second break in the Mississippi lime, as it is commonly known, was found in the Bartlesville and Wayside sands. The gas production was found in the Oswego lime.

After the inception of the first well in the Wilcox sand, a successful completion by Homer Lamb of Tulsa, Oklahoma, the geologists of the Mid-Continent area started their investigations and the result is the successful completion of nine new pools out of a total of 19 geological structures drilled. The result is that almost half of the structures drilled have proven productive.

The production of gas in Montgomery, Labette and Wilson counties has been encouraged to a large extent by the zinc foundries in the vicinity of some of the smaller towns. The Edgar Zinc Company, a subsidiary of the U. S. Steel Corporation, located near the town of Cherryvale, Kansas, has been the prime factor in this encouragement by paying as high as 11½ cents per thousand cubic feet for gas produced in and around the city. More than a hundred wells are now drilling near Cherryvale for gas to the Oswego lime.

Good Wells Found

The newly found Wilcox sand pools in this territory generally cover 200 acres of land. Production of oil in territory outside of the structure limits is most improbable. The initial production of each well averages 200 barrels, however, in the Coleman pool of Montgomery county, some of the wells have passed the two thousand barrels mark at their inception. These large wells have later eventually settled down to a steady production of from 100 to 300 barrels daily. The oil, in most cases, tests 40 per cent lubricating content with very little gasoline extraction possible.

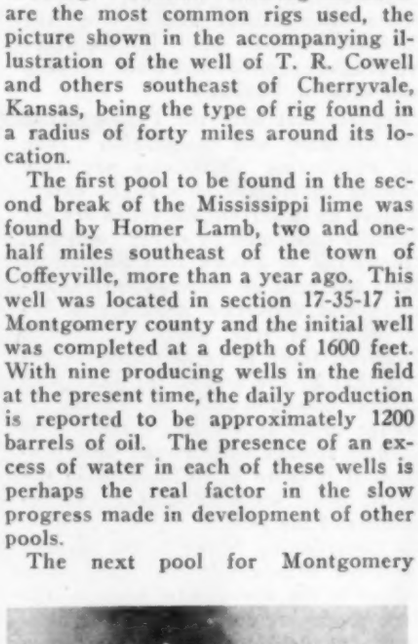
The four counties which are now considered within the producing limits are Montgomery, Labette, Wilson and extending down into Craig County, Oklahoma. Owing to the fact that this district has been producing for years from the Bartlesville sand it is well equipped with pipe lines. The National Refining Company with a refinery at Coffeeville, the Prairie Oil & Gas Company and the Standard Oil Company (Indiana) are the most prominent of the companies taking oil at the present time.

The exploration of the pools so far have been confined to the independent operators, however, the larger Mid-Continent companies are now showing interest in the possibilities of the district and many of them have already made substantial purchases in one of the four counties. The Empire Companies, the Amerada Petroleum Corporation, the Shaffer Oil & Refining Company, the Petroleum Exploration Company, and the Prairie Oil & Gas Company are a few of the larger companies having leases purchased by their field men.

One of the main attractions which has interested the independent operators in the second break in the Mississippi lime formation is the comparative small cost in operating. The holes are generally started with a 12½-inch bit and with an exception of one string of eight-inch pipe set to the first formation of lime, only one string of casing is necessary to complete a well. This casing, generally a six-inch string, is set to the top of the sand after a showing is evident. Drilling machines are the most common rigs used, the picture shown in the accompanying illustration of the well of T. R. Cowell and others southeast of Cherryvale, Kansas, being the type of rig found in a radius of forty miles around its location.

The first pool to be found in the second break of the Mississippi lime was found by Homer Lamb, two and one-half miles southeast of the town of Coffeyville, more than a year ago. This well was located in section 17-35-17 in Montgomery county and the initial well was completed at a depth of 1600 feet. With nine producing wells in the field at the present time, the daily production is reported to be approximately 1200 barrels of oil. The presence of an excess of water in each of these wells is perhaps the real factor in the slow progress made in development of other pools.

The next pool for Montgomery



Shooting a Bartlesville sand well, after drilling with portable rig

county was drilled in by the Red Bank Oil Company on the Coleman farm, eight and one-half miles west of Independence. The first well, No. 1 Coleman, was located in section 33-32-14 and was the largest well ever brought in in the state of Kansas, making approximately 4,000 barrels per day as initial production. At the present time there are 14 wells producing in the Coleman field with an average daily production of about 1,800 barrels. Production is found at the 1700 foot level. No. 1 Coleman was completed on September 13, 1924, at a total depth of 1710 feet. The water encroachment in the field is responsible for the rapid decline of production.

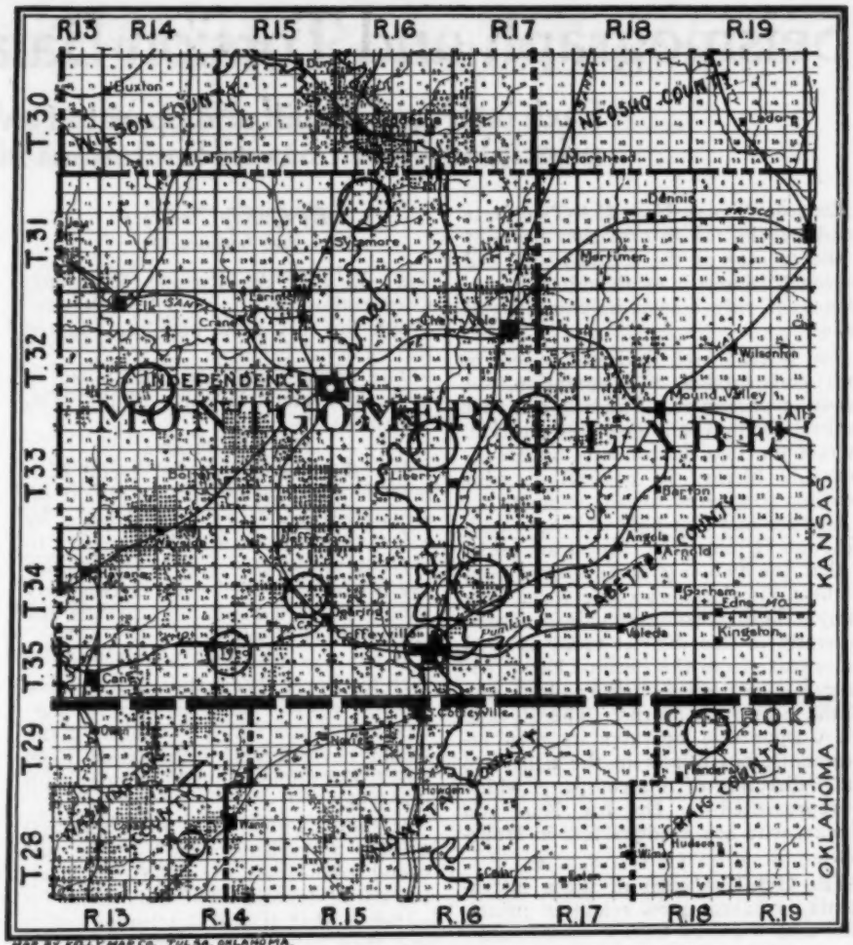
On September 18, 1924, Kors and Wilkins completed the Thompson well and opened up a new Wilcox sand pool in section 12-33-16. The well made 240 barrels as initial production. John Harwood recently completed his No. 1 Good in this pool for a 500-barrel producer from a total depth of 1314 feet. This new well is the third for the field and is located in the southwest corner of the southeast of the northeast of section 12-33-16, one mile northwest of the town of Liberty.

Cecil Canary of Tulsa found the next second break in the Mississippi lime pool in his No. 1 Dynell on October 15 near the small town of Tyro. The well is located in section 6-35-15 in Montgomery county. The initial production of the well was 150 barrels from a total depth of 1723 feet. Oil tested 25 gravity. There are five wells drilling in this pool at the present time with two wells producing.

The next Wilcox sand pool was found by the Coffeyville Brick Company on the Bellair farm in the northwest of the southwest of section 3-33-17 on the Labette-Montgomery county line. The initial production of the well was gauged as 65 barrels, but its present output is running approximately 40 barrels of 24 gravity oil per day. This oil tested 60 per cent lubricating content. Of the four wells which are now drilling in this pool, the deepest is the well of Townsell and others in their No. 1 Hall, southwest corner of the northeast of the northeast of section 4-33-17, drilling at a thousand feet. Two and one-half miles east of this well T. R. Cowell and others are trying to open up a new pool on a geological structure in section 1-33-17 in Labette county. The latter well is reported to have found the lime at 920 feet and casing is being set to the lime before drilling to the Wilcox sand.

Pools Numerous

Outside of the city limits of Derring, Kansas, O. A. Crane found one foot of Wilcox pay in his well in section 23-34-15, but as the well was supposed to be on the northwest edge of the structure, it was not completed as a commercial producer. The well has been plugged back and completed as a gas well in the Oswego lime. There are four wells drilling as offsets to this well but are thought to be higher on the geological structure.



MAP BY WILLY MAP CO., TULSA, OKLAHOMA.

The circles on this map show the first wells of Wilcox sand pools in Montgomery and surrounding counties

The eighth Wilcox sand pool was brought in just across the Kansas line in Craig county, Oklahoma, by Fitzpatrick, French, Rhodes and Lewis in section 21-29-18. The initial production was reported as 40 barrels per day, but the well is now making 20 barrels. This well was drilled in at a total depth of 1117 feet about three weeks ago.

Fitzpatrick, French, Rhodes and Lewis have also completed another Wilcox sand pool in their No. 1 Leineman, just outside of the city limits of Coffeyville, Kansas. It is the only well in the field at present, but two new locations have just been made as offsets. The producer came in making 250 barrels of oil and no water. It is located in section 1-35-16 and its total depth was given as 1214 feet. The Shaffer Oil & Refining Company own a one-half interest in this well and are operating the lease.

In Wilson county, Mortimer and Walker topped the Wilcox sand in their No. 1 Bushfield at a depth of 1509 feet and after drilling in one-half foot, the well made 85 barrels in eighteen hours. The big pipe is now being pulled before drilling in deeper. This well is located in the center of the northwest of section 17-27-16, near the town of Buffalo. The oil is testing 26½ gravity.

In section 33-31-18, R. G. Brown and the Labette Petroleum Company are preparing to spud in a well to drill to the Wilcox sand. Gas wells and some Bartlesville sand wells are now producing in this same section, a picture of one of the Bartlesville sand wells being shot is shown in this survey. The Bartlesville sand is found at 830 feet and generally produce 25 barrels per day as initial production.

Outlook Favorable

Before the successful completion of the Coffeyville Brick Company well and the wells in the Thompson pool, operators in this district were of the opinion that the dead line for Wilcox sand production ended at the edge of range 16, but it has now been moved over two townships east and many locations are being made outside of the original dead line.

Some of the most likely looking wells now drilling in the district, all of which have been approved by geology are as follows: Trees Brothers No. 1 Ida West in section 13-31-15; Arkansas Fuel Oil Company on the Spencer farm in section 14-31-17; Fisher et al on the Ingram farm in section 10-34-16; Fitzpatrick and others south of the town of Altemont; T. R. Cowell and others on the Wilson in section 1-33-17, and Clark and others on the Foreman farm in section 1-33-13.

Seismograph and Torsion Balance Not New

Each instrument built and operated on scientific principles—Each has its limitations in the field

By Grady Triplett
Staff Representative

Houston, Texas, Nov. 25.—Two facts stand out in the information brought in the success of the seismograph and torsional balance in establishing the existence of salt domes in the Coastal Plain.

One is that each device is based, in both construction and operation, on scientific principles. The other is that neither instrument is new in operation. In fact the two instruments have considerable history in connection with locating structures for oil deposits.

Another fact that may well be stated, although it may hurt American pride, is that the two instruments now used in the Coastal region come from Germany. The seismograph being used generally in this district today is used under lease from the Berlin-Charlottenburg Exploration Company, Inc., one of the Stinnes concerns. The Rycade Oil Corporation operates its own instruments, but others in the fields are under direction of this company, which is represented by Dr. Ing Kurl von Mucke, who has headquarters in Houston.

The fact that each of these instruments is based upon scientific principles and requires higher mathematics for determining results from it should serve as a warning to men who, no doubt, will be visited by men claiming to possess both the instruments and the knowledge, when in fact they are nothing but "wiggle stick" fakers.

Developed During War

While the seismograph is much older than the World War, its use then perhaps brought the development, which has adapted it to finding underground structure. Early in the war, artillery, officers of the Allied armies were faced with the task of solving the methods by which the Germans calculated the location of guns, which were so mounted and protected that they could not be seen from the air. Through secret methods and information taken from prisoners, it was later learned that the seismograph gave the location of Allied guns. Two seismographs could be used for giving data upon which lines could be drawn and the point of their meeting would be the location of the Allied gun.

Upon such methods and calculations, the Germans were able to train large guns, so they would leave the Allied artillery harmless. This applied, of course, to the guns so large they had to have permanent mountings.

It was after the war that concerns of the Royal Dutch Shell group adopted the seismograph for determining possible oil laden structures. The instrument proved unsuccessful in Mexico. In fact the Roxana Petroleum Corporation has abandoned the seismograph for this work and has adopted the torsional balance.

The seismograph also has failed to prove any merit in parts of the Mid-Continent.

Has Limitations

For those who may be fearful of it becoming a device by which all the oil structures may be found and taken by a few concerns, it may bring relief to say that those knowing its possibilities say it can be applied with success only where no hard formations overlie the structure being sought.

It happens that the Coastal Plain is such territory. Were there a formation of rock two feet thick between the surface and a salt dome, the seismograph would never reveal information upon which the dome could be sought with the drill.

It should be borne in mind also that neither the seismograph nor the torsional balance has any ability for locating an oil deposit. The only claim for either is that it will determine uplifts and then only when conditions are favorable. So the use of either device does not lessen the necessity for drilling.

Since neither device is adaptable, except when underground conditions are favorable, the advent of these scientific instruments does not mean the death of wildcatting.

Only one seismograph of American manufacture ever has been used in the Coastal region and it proved a failure. The Atlantic Oil Producing Company had this instrument, which came from the hand of an individual, who worked through the Bureau of Standards. It was tested at Pierce Junction and proved unsuccessful.

The torsional balance stands in high favor with many because its workings are based on just one variable, that of the difference in the density of two substances, as in the Coastal region, salt or rock and gumbo.

Those who use it know it will not be successful under all conditions. It could not be trusted in a region where immense beds of granite were nearby, unless these granite beds bore immediate relation to the structure being sought.

So the torsional balance, like the seismograph, can be used only where conditions favor it.

Few Machines Available

There seems to be no indication of general use of either instrument, for a limited time at least, due to their limited manufacture and the further fact that some concerns making them have exclusive contracts, either for their sale or for their lease and operation.

Before his death Hugo Stinnes, Sr., took all his instruments for determining the existence of structures and minerals and combined them under one company, the Berlin-Charlottenburg Exploration Company, Inc. Both the Marland and Gulf companies are understood to have contracts with this concern for their use of the seismograph. It is known that all work of the seismograph in the Coastal fields at present is dependent upon this German concern, with the exception of the Rycade, which has its own instruments and men schooled in using them.

While the torsional balance is not so restricted in output and operation, those being used in American oil fields today are of either German or Austrian make. Only one concern, the Roxana Petroleum Corporation, is known to own and operate its own instruments of this class.

It is the claim of German scientists that they have other methods equally as effective as the two above for determining the existence of oil traps. None of these has yet been made public. There are now rumors, however, of the use of many different kinds of instruments in the Coastal fields. Some of these reports, no doubt are due to the talk that follows the introduction of any new method. But some concerns evidently are working with methods and instruments entirely different from either the seismograph or the torsional balance. This is not given on definite information, however.

Operation Expensive

Cost of operating either the seismograph or the torsional balance is another item against them.

A man who knows considerable of what is involved in determining the existence of a salt dome by use of the torsional balance, says it will cost at least $100,000 to map a dome and drill one hole to see if the calculations are correct.

The cost includes first the instrument, which may run as high as $4,000. Then a lease to use such an instrument requires bonus equal to that required for drilling. The crew that operates a torsional balance draws a substantial salary. A man knowing the instrument can today make a connection at high salary and for a long period.

The crew must consist of one man, knowing the instrument and capable of making calculations from its readings. Two expert engineers are part of the

(Continued on page 50.)

How the Seismograph Reveals Structure

This and allied instruments based on physical laws of sound—Reliable only when formations are favorable

By Harry Pennington
Mechanical Engineer

WHILE there are some broken threads in this article, due to omitting uninteresting calculations of proof, and to hurdling matters of graphic statics and calculus, still, the writer hopes to make clear in a practical way the principles underlying the use of the seismograph and allied instruments and of the torsional balance, then the instruments themselves, for

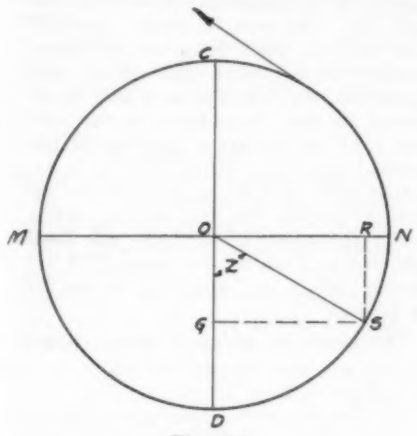


Figure 1

locating subterranean masses of greater density than those surrounding.

It will be understood at the outset that these instruments are not oil finders; as will be noted, they have quite nothing to do with finding oil itself, but rather to locating possible subterranean reservoirs where oil might be found with the drill, and when such possible reservoir has been located, it does not follow that it will contain oil as many of us have learned before.

The basis of the seismograph and torsional balance is pure science, the principles of which were discovered years ago, and we have their application to the practical problems of the

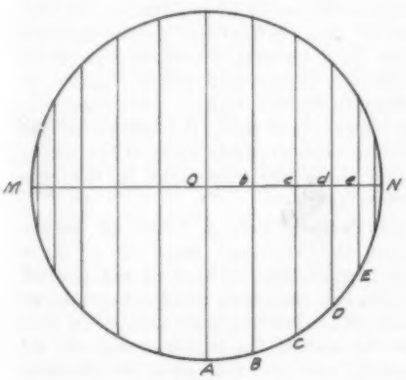


Figure 2

field, or, in other words, pure science has gone afield and become applied science.

The reader need not stop here; he is surrounded by many things that were evolved from pure science. The steel of your drilling bit has had more science dealt out to it, total, than these instruments, but you do not shy at steel because you are familiar with it. And another invasion of the field by science is but progress.

Comparatively, the torsional balance is far more complicated in its details than the seismograph; interpretation of results of either, though, must be founded on a thorough understanding of what it is all about, and on experience in the field, or calibration of the instrument and of the human equation to the locality prospected.

Based on Sound

When sound is generated, it sets up vibration of particles through which it moves. Tyndall's experiment proves this. A bell is arranged with a clockwork actuating a hammer to strike a bell. Then a glass dome is placed over the bell and air exhausted from the dome. Although the hammer can be seen striking the bell, no sound can be heard, but upon admitting air gradually, the sound gradually increases until when all air has been replaced in the dome, the bell can be heard striking distinctly again. Then, sound requires a medium for transmission, and the medium, particles, are actually set into vibration.

Sound waves have definite lengths and amplitude and are of two classes, transverse and longitudinal. Sound waves are generated and travel in phases and the motion of particles through which sound passes is periodic.

Suppose that we have a point, S, Figure No. 1, which moves around a circle MDNC with uniform speed, or has uniform angular velocity, and, from the point of S at any instant, we draw a perpendicular SR to the diameter MON of the circle. As S revolves in the circle, the point R of the perpendicular will move backward and forward along the line MN and the point R then has a simple harmonic motion along the line MN. It will be observed that though the point S moves through a distance in a time equal to that required for another equal distance, the point R moves in another manner. The time required for the movement of R through one space, say A to B, Figure 2, is called the periodic time of the simple harmonic motion and the number of passages to and fro of R in a second is called the frequency. The maximum distance of the point R from the mid point of its path is termed the amplitude, and the angle Z is the phase at the given time of the partcile which is executing the simple harmonic motion.

A force acting on a mass to cause it to execute simple harmonic motion is equal to the mass multiplied by its acceleration, and we see that the force must act toward the middle point O of the path along which the simple harmonic motion takes place, and the dis-

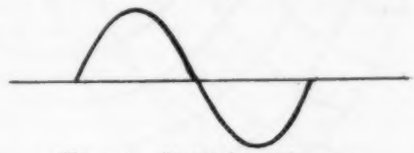


Figure 3. Simple harmonic curve

placement of the particle is indicated by positive and negative signs when to the right or left respectively. When displacement is taken at unity, the periodic time T is equal to two times the radius R times the square root of the ratio of the mass of the particle to the form of restitution.

Any series of forces acting together from any direction may be resolved into a single force acting in a straight line, and the forces as outlined, analyzed with a resultant in a given direction. But the phases of motion of the different particles are not the same for all, but are related in definite ways. Figure No. 3 shows a simple harmonic motion due to vibration and all the elements of sound are set forth in this curve.

Figure No. 4 shows a series of curves for the successive phases of sound transmission, where it is seen that each curve is moved forward through one period, except that the effect of condensation and rarefaction is not included.

The definition of transverse vibration

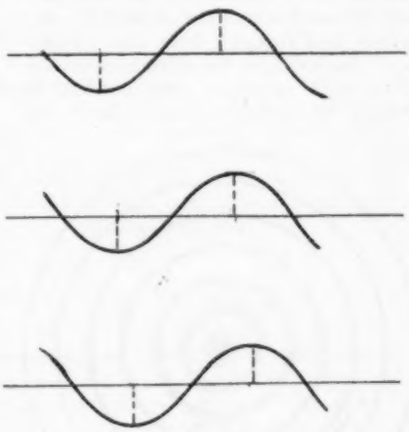


Figure 4

is the same as for longitudinal; the speed at which the crest or trough, in the case of a transverse wave, or the condensation and rarefaction, moves

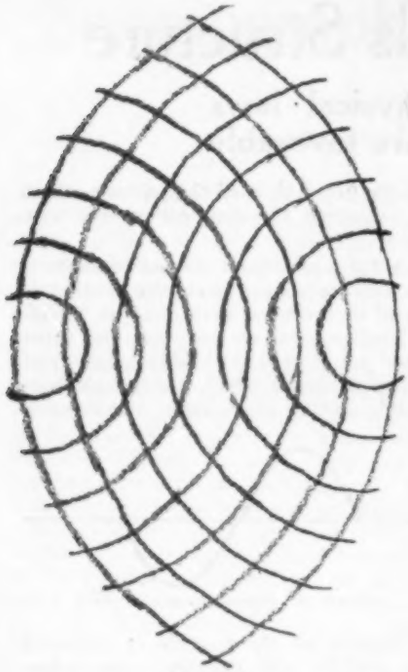


Figure 7

through the medium, is the velocity of propagation of wave motion.

Velocity of Sound

As expressed first by Newton, the velocity of a wave is: V equals the square root of Q divided by D, where Q is the elasticity and D the density of the medium. Therefore the velocity, as may be seen, is greater with increasing ratio of elasticity to density of medium.

Velocity is independent of frequency, and, as long as amplitude is not too great, velocity is also independent of amplitude, or, in other words, sound from a little cannon travels but little slower than from a big cannon.

Velocity of sound has been measured in air by using an electrical circuit to close when a sound is produced and to open when the sound strikes a diaphragm at a distance. The velocity through air is about 1100 feet per second; through water about 5600 feet per second, and through iron about 16,000 feet. An example of difference in velocity with medium may be had in striking the end of a long railing; the vibrations may be felt at the other end before the sound is heard through the air, and were the railing extended through a wall, it could be heard through the railing without hearing through the air. There is another wave, faster than sound, that comes into play also; we can see the hammer strike the railing before the sound is heard either through the railing or through the air, consequently, light, which is also a wave of high frequency, travels faster than sound waves.

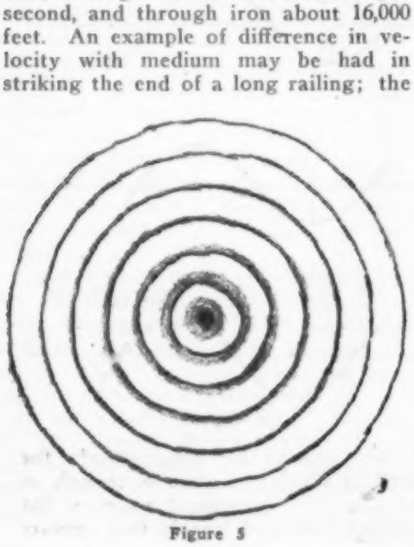


Figure 5

As sound waves travel to greater and greater distances, they spread over wider and wider surfaces and become weaker, and are finally dissipated, unless something is encountered. An analogy of the wave travel of sound is in the ripples of water—as a matter of fact all classes of waves are analyzed the same. A single touch on the water, Figure No. 5, starts circular ripples spreading, fading as the circle widens, as sound does even faster. Touch two places on the water and two sets of interlacing ripples start out, and each set of ripples goes through the other as if it were not there, Figure No. 6.

Sound does the same way; two sounds can cross at any angle without the least interference. However much sound is crossing a space, a new sound can find its way across that space just as though no other sound were there, although the ear may have some difficulty in distinguishing all sounds at once.

A series of waves, Figure 7, make a beautiful diamond shape as the succeeding riffles cross one another. All waves, sound, water, light, are of the same nature.

When a set of waves moves past the edge of an obstacle, they swing around it. We can hear a noise around a corner, caused by sound waves swinging around it.

The distance between successive waves of sounds such as the voice or the note of a pipe organ are from one to several feet. If we tried to block them by obstacles or turn them by reflecting surfaces, they would scarcely obey; sound waves, subject to control, must belong to the high pitched sounds. High pitched waves are short and low pitch, long.

When a wave meets an obstacle, it is not generally annihilated but its direction may be altered, which is termed reflection. Figure No. 8, representing wave reflection, shows the wave CED moving at the angle Z and striking the wall AB. The point C strikes the wall first and, as each part of the wave moves forward, each succeeding part of the wave meets the wall and is reflected, so that, in addition to the portion E'D' of the wave moving in the original direction, there will be a reflected portion C'E' moving in the direction shown by the arrow, while finally the whole of the wave has been reflected and we have a wave C"E"D" moving off in the direction shown by its arrow.

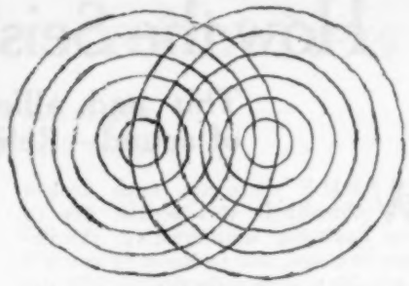


Figure 6

The angle at which a wave strikes is the incident angle, hence the wave is incident; when the wave direction is altered by reflection, it is then a reflected wave. The angle of reflection is equal to the angle of incidence. In Figure No. 9 a vertical line drawn upward from E, a normal, leaves the angle of incidence to the left and the angle of reflection to the right. These we see, are equal, and since the utility of the seismograph depends upon reflection of wave, these are important to the subject in hand.

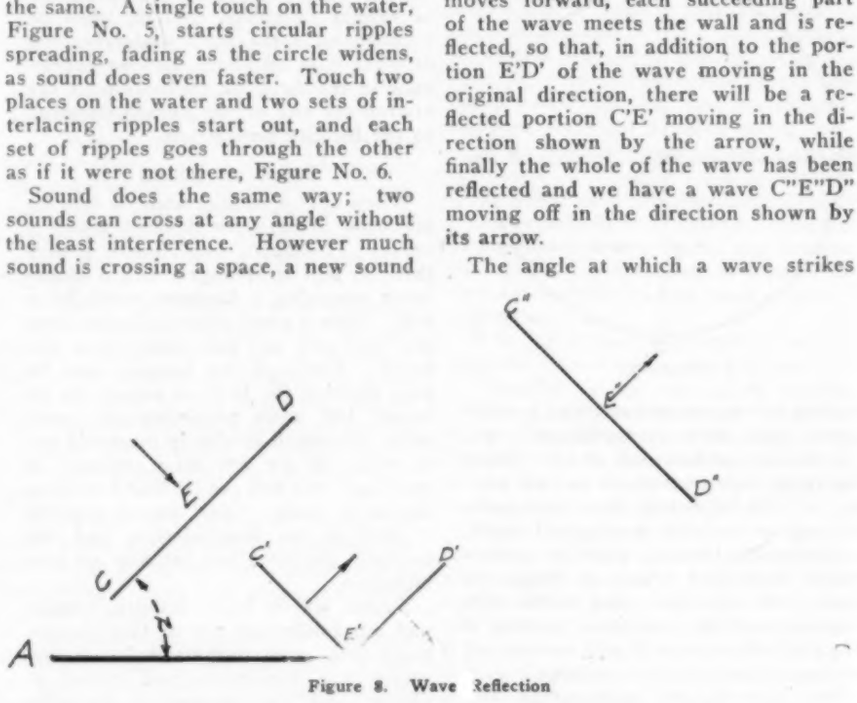
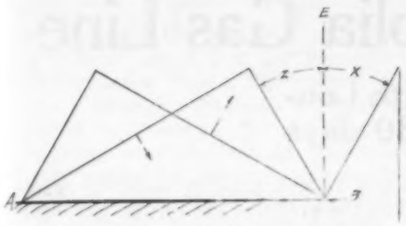


Figure 8. Wave Reflection

In dealing with a train of waves, when the incident wave at a given point is affected by one of the preceding waves, returning after reflection, we have the simultaneous action of two sets of waves, the incident and the reflected, and in such case interference takes place. When the incident wave strikes the surface at right angle, the reflected wave travels back at the same angle, and we have two sets of waves sweeping in opposite directions, giving rise to what are called stationary waves



Firgure 9. Wave reflection angle

which rise and fall without moving forward. This may be seen sometimes when waves roll up against a cliff and recoil therefrom and in such cases there are places at regular intervals where the water is stationary and in between, the water rises and falls alternately.

In sound waves, reflection finds expression in the echo produced when a sound strikes a cliff of similar reflecting surface.

How Used

These give a few characteristics of this class of wave which includes those of sound, and we can now examine into the application of wave propagation to a useful purpose.

In drilling on the Gulf Coast, if we are not drilling above a dome, the bit does not strike rock usually until rather deep, but the formations are of the softer alluvial type. If a dome exists where drilling is being done, the presence of such is indicated at comparatively shallow depths, due to the fact that all the domes so far discovered are overlaid with a hard cap rock above the salt and, as outlined by drilling, the cap may be several hundred feet thick. And, being surrounded by relatively soft material, the cap rock and the salt mass form relatively hard surfaces and sound vibrations striking these harder surfaces are reflected therefrom according to the principles already set out.

When a sound is generated in the earth just below the surface, call it shock, if you wish, if there is no reflecting surface below, such sound continues to spread, growing weaker and weaker until it is finally dissipated, as shown in Figure No. 10.

But should there be a dome underneath, as shown in Figure No. 11, the sound waves travel through the softer overlying material, strike the salt mass and cap rock and are reflected from the various portions.

When a shot is fired as shown in Figure No. 12 directly over the cap rock, the incident wave travels to the rock

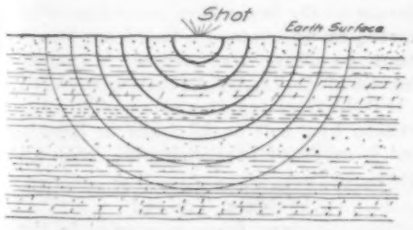


Figure 10. Sound wave dissipated with no reflection surface

and is reflected along the line to the seismograph. I am showing waves as a straight line for clarity, and because record of wave production and of reception of return wave is at a point, the seismograph location.

When an instrument is set up that will record the time of a blast of dynamite in the ground, and we know the rate of wave travel, the distance to a reflecting surface may be approximated closely. And, when the instrument is also so arranged to record the direction from whence the reflected wave came, we can see the use of sound waves for locating subsurface reflecting media—salt domes, plugs, dikes, faults and so forth.

Types of Seismograph

Such instrument is the seismograph, first used for detecting shocks from earthquakes, and in use for many years for the purpose.

The principles of construction used

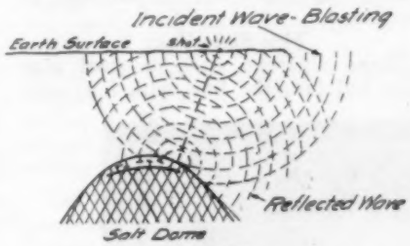


Figure 11

are many; the pendulum type has been developed to great accuracy, although extreme registration is not necessary for the purpose of salt dome work.

The duplex pendulum is shown in the simplest form in Figure No. 13. The weight E is suspended from A, forming a simple pendulum; the inverted pendulum G has its rod weighted at F, and the rod extends to the weight of the upper pendulum and is there connected by the universal joint H. When the system is displaced, as by an earth vibration, a and b move to c and d and E tends to follow the direction of the point of its support, while F tends to fall in the opposite direction. With the resultant motion amplified, and arranged for recording vibrations continuously, as on a cylindrical moving paper roll, or photograph film, the direction and intensity of return of a reflected wave from any subsurface reflecting medium may be recorded.

There are many forms of instruments; all of them depend upon sound waves for earth vibration, and when the graph is interpreted correctly, as may be done with some experience, quite accurate subsurface conditions can be defined without drilling, including the depth to the reflecting medium.

Its Possibilities

In a like manner, the axis of an anticline, a fault line, dike, or monocline, can be defined, when there is a difference in elevation, and a difference in density of adjoining strata, provided there is no intervening hard surface of reflection.

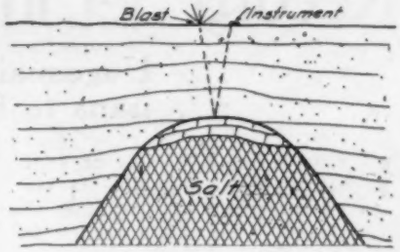


Figure 12. Reflection of sound wave over a dome

If there is an intervening blanket formation of rock between the surface and the cap rock or other thing sought to be located and defined, the blanket rock becomes the surface of reflection, and nothing below can be accurately defined, when the method does not produce positive results. Figure No. 14 shows such condition; the blanket formation of rock, or shell, is a surface of reflection, and results from blasting over such an area are not positive, and, in the Gulf Coast country, there are several localities where a shell bank covers large areas at depths from 500 to 700 feet.

This forms the source of error of this class of instrument; we cannot be certain that there is not an intervening reflecting surface, unless drilling is done, and although the instrument may show that "there is something down there", its value may be limited by this feature.

Allied Instruments

In the same class are the various instruments developed during the war for detecting and locating sounds in water, under the earth in mine preparation, and for detecting the location of enemy guns both by sound ranging of discharge and of projectiles passing over or near. All of these have a medium, usually a diaphragm, for receiving and transmitting sound waves to the ear, and probably intensifying them between the diaphragm and the ear.

In tunnelling work, the geophone may locate direction of sound by connecting two, one to each ear, this securing the binaural effect of the ear, or the ability to locate the direction from which sound comes.

Two water sound ranging stations 100 miles apart can, by triangulation and sound travel measurement, locate an explosion at 200 miles range to an accuracy of half mile. This finds use-

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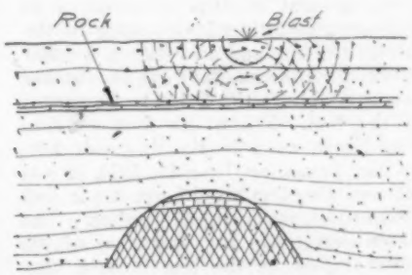
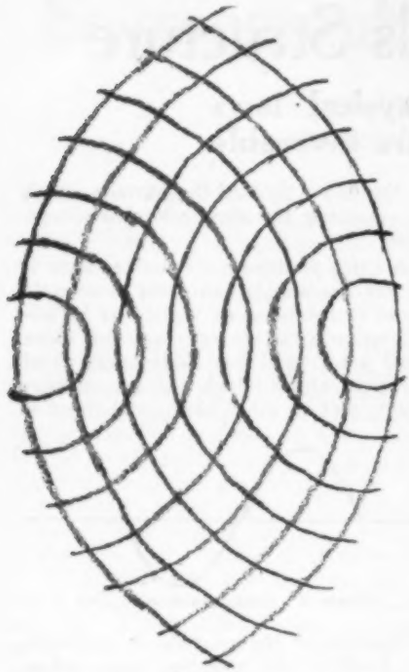


Figure 14. Wave reflected by intervening hard rock



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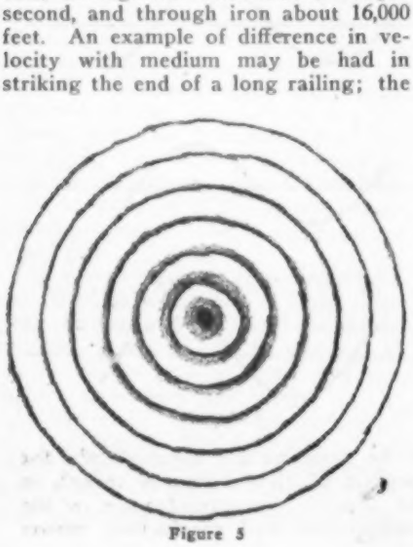

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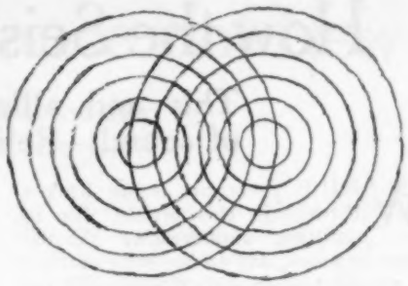

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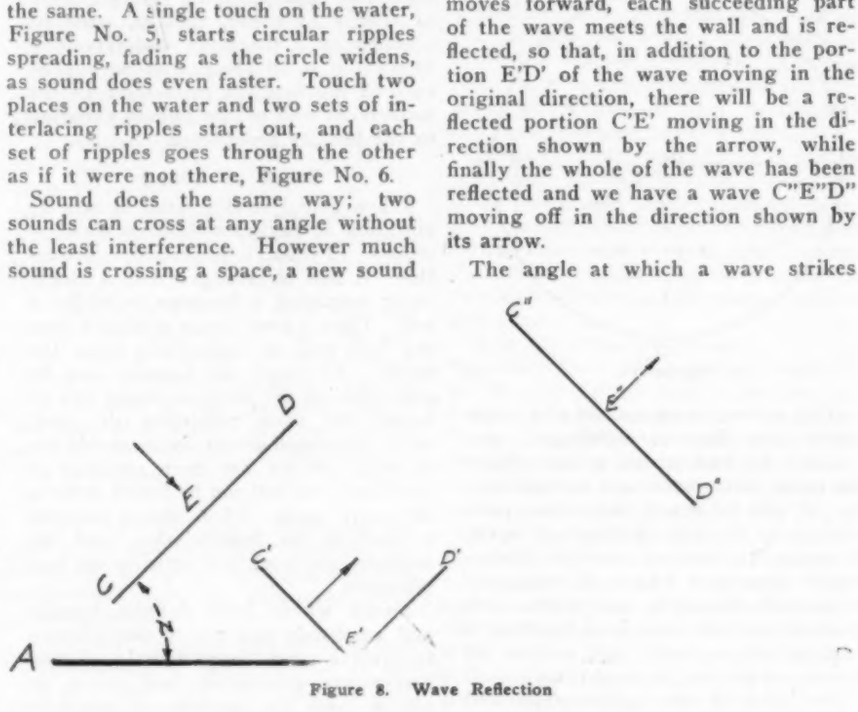

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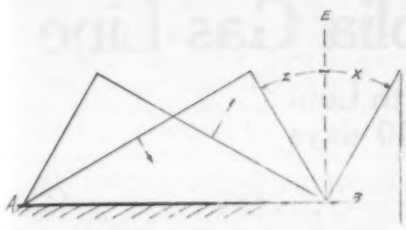

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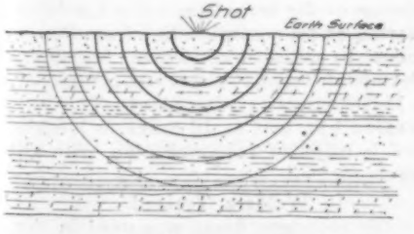

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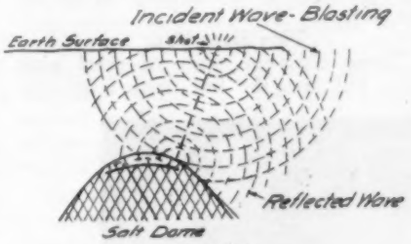

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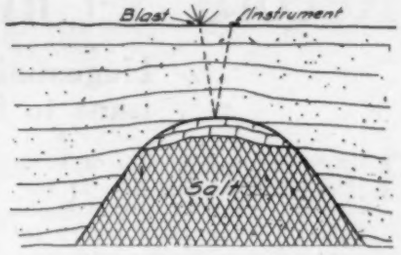

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Allied Instruments

In the same class are the various instruments developed during the war for detecting and locating sounds in water, under the earth in mine preparation, and for detecting the location of enemy guns both by sound ranging of discharge and of projectiles passing over or near. All of these have a medium, usually a diaphragm, for receiving and transmitting sound waves to the ear, and probably intensifying them between the diaphragm and the ear.

In tunnelling work, the geophone may locate direction of sound by connecting two, one to each ear, this securing the binaural effect of the ear, or the ability to locate the direction from which sound comes.

Two water sound ranging stations 100 miles apart can, by triangulation and sound travel measurement, locate an explosion at 200 miles range to an accuracy of half mile. This finds use-

(Continued on Page 50.)

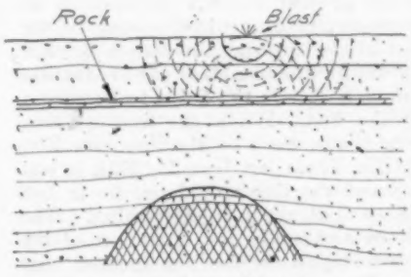


Figure 14. Wave reflected by intervening hard rock

Record Set in Welding Magnolia Gas Line

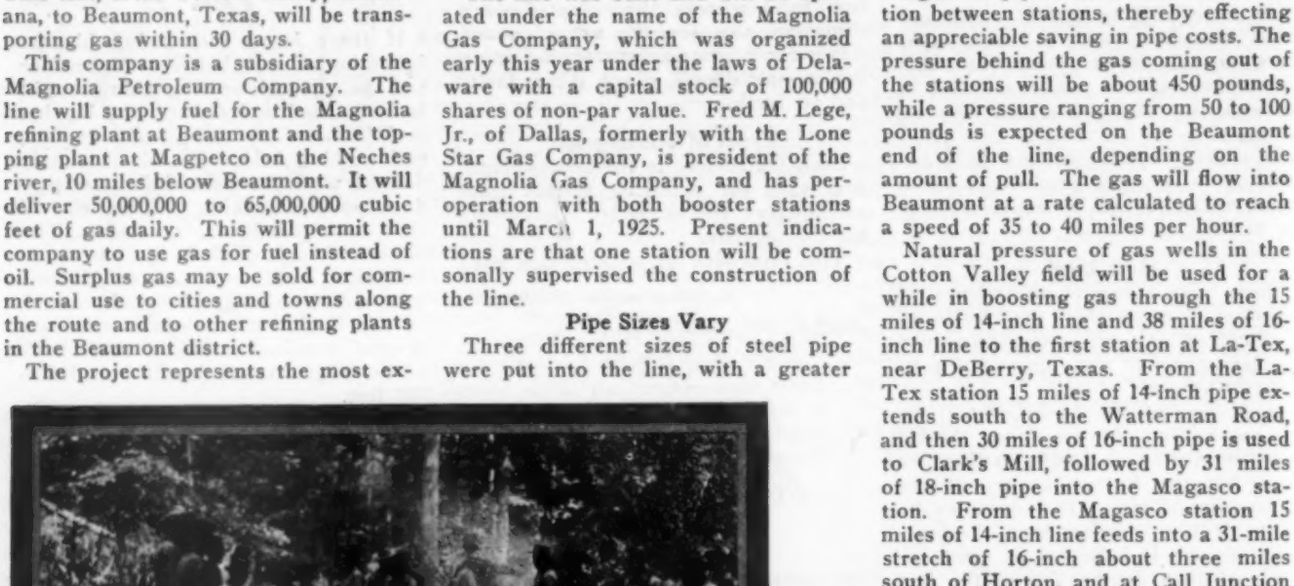
Huge main will be moving gas from North Louisana to Beaumont refining center in 30 days

By H. H. King
Staff Representative

BY completing 215 miles of 14 to 19-inch welded pipe line in four months, crews of the Magnolia Gas Company have set a record for this class of pipe line construction. This line, from Cotton Valley, Louisiana, to Beaumont, Texas, will be transporting gas within 30 days.

This company is a subsidiary of the Magnolia Petroleum Company. The line will supply fuel for the Magnolia refining plant at Beaumont and the topping plant at Magpetco on the Neches river, 10 miles below Beaumont. It will deliver 50,000,000 to 65,000,000 cubic feet of gas daily. This will permit the company to use gas for fuel instead of oil. Surplus gas may be sold for commercial use to cities and towns along the route and to other refining plants in the Beaumont district.

The project represents the most extensive piece of welded pipe line construction ever attempted. The cost will reach around $8,000,000.



Above—Pulling welded section of line into place for tying into completed line.

Right—Welding 18-inch pipe, showing clamps holding ends in place.

The welding of the line was completed several months in advance of estimates, resulting in a saving in the cost of the line and affording a quicker market for the abundant gas production now available in the fields to be served by the line. When the first welding crew began work on the line near Kirbyville, Texas, on June 15, 1924, it was believed the line would not be in full Texas unit early in December. The pleted and ready for operation of the other station on the line located near the Texas-Louisiana border will be completed in time to start operating full capacity by January 1.

The line was built and will be operated under the name of the Magnolia Gas Company, which was organized early this year under the laws of Delaware with a capital stock of 100,000 shares of non-par value. Fred M. Lege, Jr., of Dallas, formerly with the Lone Star Gas Company, is president of the Magnolia Gas Company, and has per- operation with both booster stations until March 1, 1925. Present indications are that one station will be comsonally supervised the construction of the line.

Pipe Sizes Vary

Three different sizes of steel pipe were put into the line, with a greater part being made up of 16 and 18-inch pipe, while a 15-mile stretch of 14-inch pipe was placed at the upper end of the line in Louisiana and for the same distance out of each of the booster stations, making a total of 45 miles of 14-inch line. The 16-inch pipe was divided into three sections along the route, with a total length of 99 miles, while 71 miles of 18-inch pipe was used in approaching the Magasco station and entering the Beaumont terminus. The weight of the pipe varies from 42 to 63 pounds, with the heaviest weight being in the 14-inch pipe in order to withstand the pressure put on the gas coming out of each station. In order to obtain maximum capacity with the smallest amount of steel, 12 different weights of pipe were used in each section between stations, thereby effecting an appreciable saving in pipe costs. The pressure behind the gas coming out of the stations will be about 450 pounds, while a pressure ranging from 50 to 100 pounds is expected on the Beaumont end of the line, depending on the amount of pull. The gas will flow into Beaumont at a rate calculated to reach a speed of 35 to 40 miles per hour.

Natural pressure of gas wells in the Cotton Valley field will be used for a while in boosting gas through the 15 miles of 14-inch line and 38 miles of 16-inch line to the first station at La-Tex, near DeBerry, Texas. From the La-Tex station 15 miles of 14-inch pipe extends south to the Watterman Road, and then 30 miles of 16-inch pipe is used to Clark's Mill, followed by 31 miles of 18-inch pipe into the Magasco station. From the Magasco station 15 miles of 14-inch line feeds into a 31-mile stretch of 16-inch about three miles south of Horton, and at Call Junction the gas flows into the last section of 18-inch pipe and then on to Beaumont, a distance of 40 miles. Since the completion of the main line, work has been started on an extension line from Beaumont to Magpetco, where Magnolia Petroleum Company recently completed a 15,000-barrel topping plant. This extension line will be 10 miles in length, and is made of 12¾-inch pipe, with all joints welded.

Welders Trained

Oxy-acetylene flame was used in the welding of this gas carrier, and in or-

der to obtain the necessary number of welders to carry out the big job of welding more than 67,000 joints in the line, a special school of welding was opened at Beaumont by the Magnolia Company to train men for the work. Every welder on the job was a product of this school, although experienced men required only a few minutes to pass the test, while the average novice qualified for duty after training for 10 days or two weeks.

In order to expedite the completion of the line before the rainy season set in welding gangs were scattered at various points along the route, and at times as many as 220 welders were at work on the line. After completing a stretch of line these gangs were often transported by special trains, with equipment, to other points as a means of saving time and to keep the gangs intact while moving.

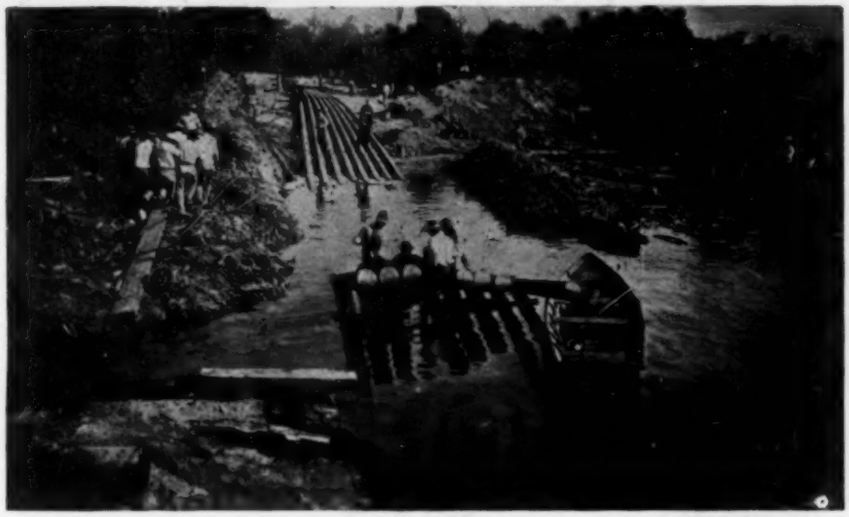
The line as it now stands has been tested in sections for its entire length with air, and water whenever available in sufficient quantities, and officials of the Magnolia Gas Company state that 95 per cent of the welds made on the line will stand the same pressure test that the pipe was subjected to before leaving the steel mills. The preliminary tests made of the line in sections shows a higher efficiency than 95 per cent, but the builders expect to develop more defects after a few weeks' operation of the line.

Not one fitting or threaded connection is used on the line, while expansion joints are used only at the river crossings. To avoid the use of expansion joints and at the same time allow for contraction and expansion the line was made sinuous before being put into the trench. A small tractor was used to throw about three feet of slack in the line at 100-foot intervals, thereby giving the line the appearance of a long snake. The trenching work will not be completed until late in November, and the pipe is to be buried not less than 20 inches.

The route traversed by this gas line leads through numerous swamps, across streams, and through the heart of the East Texas timber belt, making it desirable that the line work be completed before winter rains began. A corduroy road of logs had to be built for many miles in crossing the swamps, while the heavily timbered areas necessitated the cutting of paths and the dynamiting of thousands of stumps to permit the passage of ditching machines and welding equipment. Because of the swampy condition of a large percentage of the land covered by this line, it was reported that only a welded line could be used satisfactorily.

Insulation Thorough

Extreme precaution was taken to protect the line from the briny waters found in the swamp regions. Every foot of pipe has been covered with a coating of special asphalt primer followed by a layer of asphalt cement. The third treatment consisted of a blanket of asbestos felt saturated with asphalt, plastered around the pipe, hermetically sealing it. An extra heavy coat of asphalt was then applied to the asbestos conduit as final means of protection to the pipe.



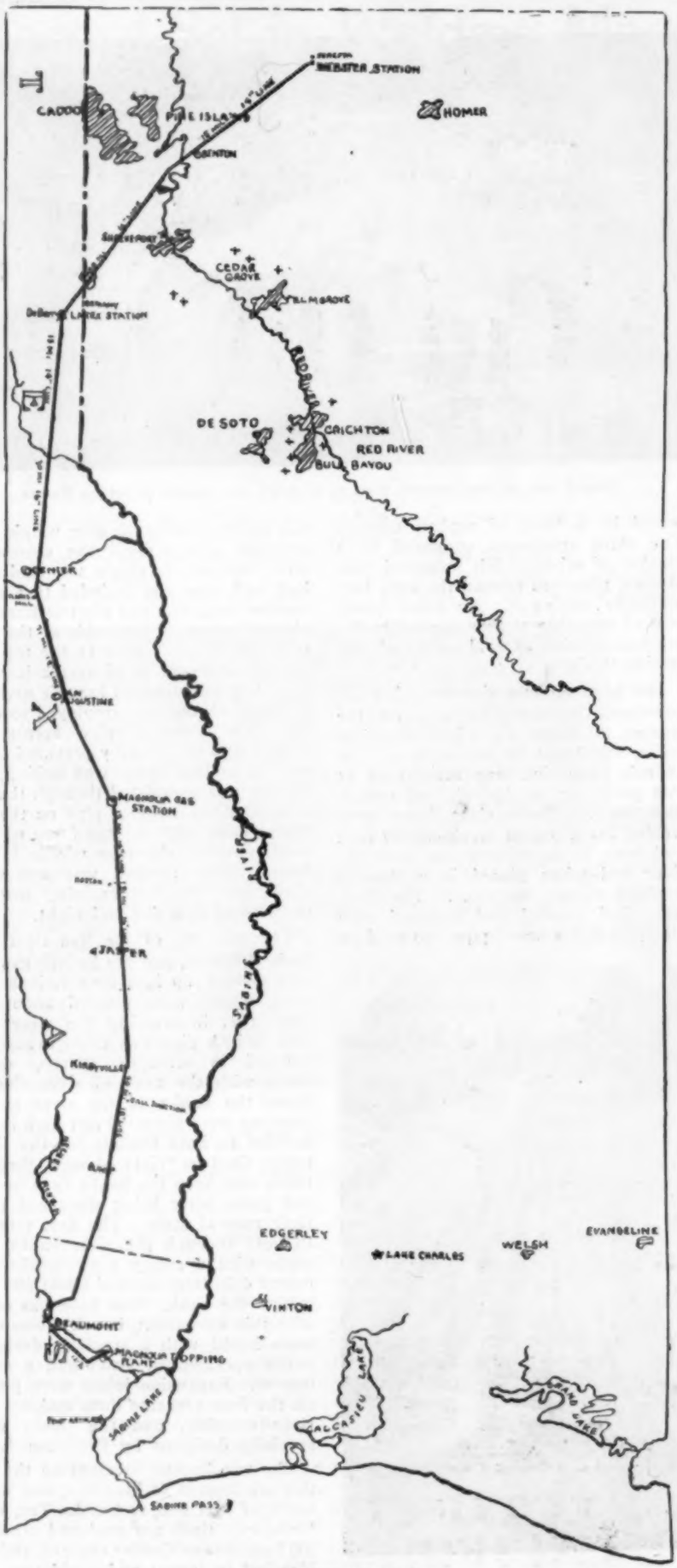
Plugged ends of river crossing ready to be pulled into channel across the Neches

The most difficult river crossing encountered by the line was on the Neches at Beaumont, where maritime traffic could not be interrupted. The 18-inch main line was substituted at this point for six 10-inch and two 8-inch lines. These eight lines were welded for a length of about 800 feet, and bent so as to conform with the river bed when placed in a channel dredged across the river. The lines were laid parallel and fastened with clamps. Extra heavy pipe was used on this river crossing to give weight and strength, and replace the customary river clamps. A single two and one-half inch pipe was included to accommodate telegraph and electric lines. A channel about 40 feet wide at the bottom and 150 feet wide at the top and varying from 20 to 35 feet below the river bed was dredged for this network of lines. A tug was employed to drag the river crossing pipe across the stream into its specially prepared channel, but pulling power was lacking, and the job was completed through the use of a windlass made of pipe on the opposite bank with a large force of pipe liners turning the pipe windlass with tongs. This method was somewhat slow, but the river crossing was accomplished in a day and night.

Eight lines clamped together for Neches river crossing and bent to river bed contour.

The crossing of the Red river was made different, and the 16-inch gas line was divided up into four 10-inch carriers, which were planted about 400 feet apart in crossing the river bed. The 10-inch pipe was extra heavy and doubled in strength, thereby doing away with the need of river clamps. Since the banks of the river at the crossing were about 40 feet high it was decided to bore tunnels for the lines, rather than to "right of way" through them, and have the banks cave in in a few years after being disturbed from their natural state. The first attempt to bore through the river banks was made with a rotary draw works and rotary drill stem planted about 300 feet behind the bank. One hole was made with this equipment, but the remainder were bored with a specially designed auger operated by hand and a small tractor. Expansion joints were placed on the four separate lines making this river crossing, and the joints were specially designed by President Lege.

The two booster stations on the gas line are located at Magasco, two miles north of Pineland, and at La-Tex, near DeBerry. Both are equipped with 5,000 horsepower Cooper engines, and are identical in layout and equipment. A third station is to be erected next year



Route of Magnolia Gas line

at the end of the line in the Cotton Valley field. The Magasco station is on a 160-acre site located on a group of small hills in the midst of a pine and hardwood forest, and a lake has been built to carry at least six months' water supply. The main engine building, auxiliary building and warehouses are of the latest type Austin Brothers' all-steel and brick design. Modern bungalow type of houses have been erected for the employes, with sewerage, gas, lights and water conveniences. The La-Tex station site consists of 137 acres, and accommodations for employes and the station proper is the same as the Magasco station. Both sites are to be beautified, and made into attractive places for the workmen and their families.

The completion of this gas line will be a boom to gas development in Northeast Texas and Northwest Louisiana fields, and its great carrying capacity will afford a large demand for gas, as Magnolia can dispose of all gas handled in excess of its current needs to cities, towns, industrial plants and to other refineries located near Beaumont. The nearest group of fields to Beaumont to be served by the line are in Panola county, Texas, the Bethany and Wascum fields, while the second group is located at Serepta and Cotton Valley in Northwestern Louisiana. Other fields are to be given connections if the production slumps in the above gas areas.

Los Angeles Club Hears Corporation Commissioner

Los Angeles, Calif., Nov. 22.—The monthly luncheon for oil men of California, under the auspices of the Chamber of Mines and Oil, held this week at a local hotel, was one of the most successful yet held, although the attendance was not a record by any means. The original object of the luncheons was to get the oil men together to become better acquainted, bring about a more cheerful feeling and pave the way for hearty co-operation when need arises. This object is being attained and there appeared to be a more friendly feeling at the luncheon than heretofore.

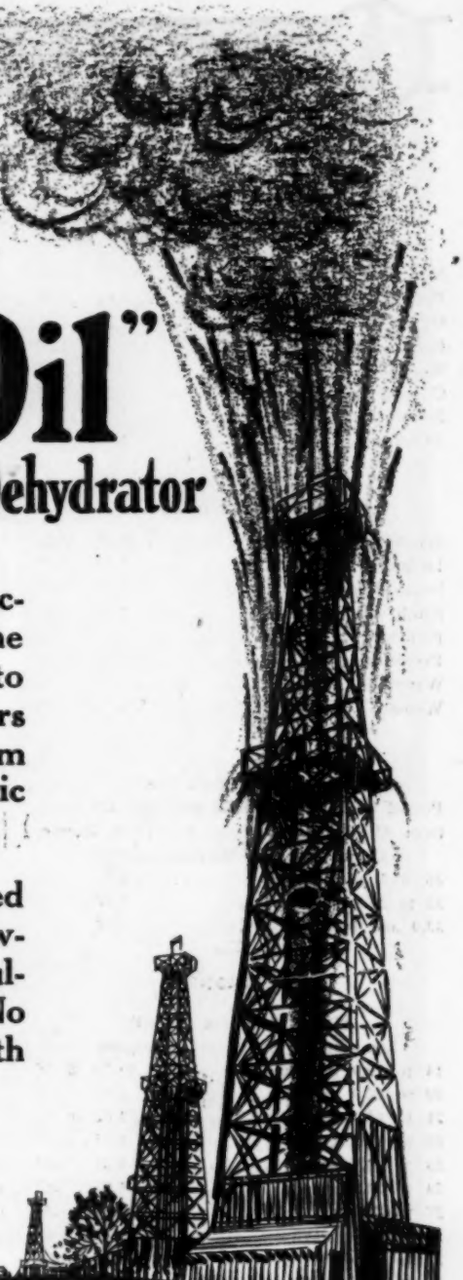
The speaker of the day was Edwin M. Daugherty, commissioner of corporations, and he reviewed the laws governing his department, discussing the permits issued by his department for organization of companies to drill for oil.

Chester W. Brown, director of exploration for the Union Oil Company of California, acted as toastmaster, and Edwin Higgins, executive secretary of the Chamber of Mines and Oil, announced the progress of the Chamber in preparing to fight the battles of the oil men of the state. W. R. (Dick) Guiberson, vice president of Guiberson Corporation, delighted those present with two of his songs.

The End of the Trail For—

"Cut Oil"

Is a P.R. Electric Dehydrator



No more signal achievement has occurred in the realm of scientific aid to the Petroleum Industry than the saving to oil producers of millions of dollars through the recovery of "dry" oil from emulsion by use of the "P R" Electric Dehydrators.

There is no need for accepting lowered prices due to your production tests showing a higher percentage of water or emulsion than pipe-line requirements. No more do you have to be satisfied with "what you can get" for "cut" oil.

For SATISFACTION and DIVIDENDS put your cut oil problems up to your Official Oil Doctors.

PETROLEUM RECTIFYING COMPANY OF CALIFORNIA

308 Union Oil Building
Los Angeles, California

330 Humble Building
Houston, Texas

CRUDE OIL PRICE QUOTATIONS FOR ALL FIELDS

Current Postings

EASTERN STATES

	Nov. 28 1924	Nov. 28 1923
New York Transit	$2.85	$2.60
Bradford (Pa.)	2.85	2.60
Other Pa. Grades	2.75	2.35
Cabel	1.45	1.20
Ragland	.90	.75
Corning	1.50	1.45
Somerset, medium	1.55	1.15
Somerset, light	1.70	1.30

CENTRAL STATES

Illinois	$1.37	$1.22
Indiana	1.38	1.23
North Lima	1.58	1.43
South Lima	1.58	1.43
Plymouth	.75	.60
Princeton	1.37	1.22
Waterloo	.75	.70
Wooster	1.40	1.25

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties

36 and above	1.30	...
33 to 35.9	1.20	...
32.9 and below	1.10	...

CALIFORNIA

(Crude oil prices at well)

Los Angeles and Orange Counties

14 to 19.9 gravity	$1.00	$ .60
20 to 20.9 gravity	1.01	.61
21 to 21.9 gravity	1.02	.62
22 to 22.9 gravity	1.03	.63
23 to 23.9 gravity	1.05	.64
24 to 24.9 gravity	1.07	.65
25 to 25.9 gravity	1.10	.66
26 to 26.9 gravity	1.13	.67
27 to 27.9 gravity	1.16	.68
28 to 28.9 gravity	1.19	.69
29 to 29.9 gravity	1.22	.70
30 to 30.9 gravity	1.25	.71
31 to 31.9 gravity	1.28	.72
32 to 32.9 gravity	1.31	.73
33 to 33.9 gravity	1.34	.74
34 to 34.9 gravity	1.37	.75
35 gravity and above	1.40	.76
Fuel Oil	1.40	...

Rosecrans Field

36 to 36.9 gravity	$1.46
37 to 37.9 gravity	1.52
38 to 38.9 gravity	1.58
39 to 39.9 gravity	1.64
40 to 40.9 gravity	1.70
41 to 41.9 gravity	1.76
42 and above	1.82

MID-CONTINENT

(Prairie Prices)

Below 30 gravity	$ .75	$ ...
30 to 32.9 gravity	.90	...
33 to 35.9 gravity	1.10	...
36 and above	1.25	...

	Nov. 28 1924	Nov. 28 1923
(Sinclair Prices)		
Below 30 gravity	.75	...
30 to 32.9 gravity	.90	...
33 to 35.9 gravity	1.10	...
36 and above	1.25	...
(Texas Company Prices)		
Below 30 gravity	.75	...
30 to 32.9 gravity	.90	1.25
33 to 35.9 gravity	1.10	1.50
36 and above	1.25	...
(Magnolia Petroleum Co.)		
Below 30 gravity	.75	...
30 to 32.9 gravity	.90	...
33 and above	1.25	...
Corsicana, light	1.25	...
Corsicana, heavy (at wells)	.90	...
Mexia	1.25	...
Thrall	1.00	...

NORTH CENTRAL TEXAS

(Humble Oil & Refining Co.)

Corsicana, light (Powell)	1.25	1.00
Mexia	1.25	1.00
Currie	1.25	1.00

RANGER

(Humble Oil & Ref. Co.)

30 and below	.90
30 to 32.9	1.10
33 to 35.9	1.25
36 and above	1.35

WICHITA AND ARCHER COUNTIES

(Texas)

(Humble Oil & Ref. Co.)

30 and below	.75
30 to 32.9	.90
33 to 35.9	1.10
36 and above	1.25

Moran Crude

30 and below	.75
30 to 32.9	.90
33 to 35.9	1.10
36 and above	1.25

SOUTH TEXAS

Mirando (Texpata)	.80	.75
Mirando (Magnolia)	.75	...

SOMERSET

(Grayburg Pipe Line Company)

25 gravity and above	.95	...
Below 25	.85	...

GULF COAST

Grade "A"	1.50	...
Grade "B" at Blue Ridge, Hull and Pierce Junction	1.25	...

LULING

All gravities	.90	...

LOUISIANA-ARKANSAS

Caddo

	Nov. 28 1924	Nov. 28 1923
38 gravity and above	1.35	...
35 to 37.9 gravity	1.25	...
32 to 34.9 gravity	1.15	...
Below 32 gravity	1.00	...
Homer		
35 gravity and above	1.10	...
33 to 34.9 gravity	1.00	...
31 to 32.9 gravity	.90	...
Below 31 gravity	.75	...

COTTON VALLEY

All grades	.95	...
Haynesville		
33 gravity and above	1.00	...
Below 33 gravity	.90	...
Bull Bayou		
38 gravity and above	1.15	1.05
35 gravity to 37.9	1.00	.90
32 to 34.9 gravity	.85	.75
De Soto crude	1.20	1.10
Crichton	1.00	.90
Bellevue	1.35	.75
Jennings	1.50	1.00
Vinton	1.50	1.00
Edgerly crude	1.50	1.00

Smackover

Standard Oil Company of Louisiana
Louisiana Oil Refining Corporation
Gulf Refining Company
Shreveport-El Dorado Pipe Line Company

25 gravity and above	$ .95	...
Below 25 gravity	.85	...

Texas Company

26 gravity and above	$ .95	...
Below 26 gravity	.85	...

El Dorado

33 gravity and above	1.00	...
Below 33 gravity	.90	...
East Field (Calion)	.85	...
Stephens District		
26 gravity and above	.90	...
Below 26 gravity	.70	...

WYOMING-MONTANA

Wyoming

Elk Basin	1.20	.95
Grass Creek	1.20	.95
Rock Creek	.95	.60
Lance Creek	1.15	.80
Mule Creek	.60	.45
Big Muddy	.75	.45
Salt Creek	.85	.60
Osage	1.15	.90
Hamilton Dome	.80	.95
Pilot Butte	.75	1.10
Lander	.20	1.10
Torchlight-Greybull	1.15	.95

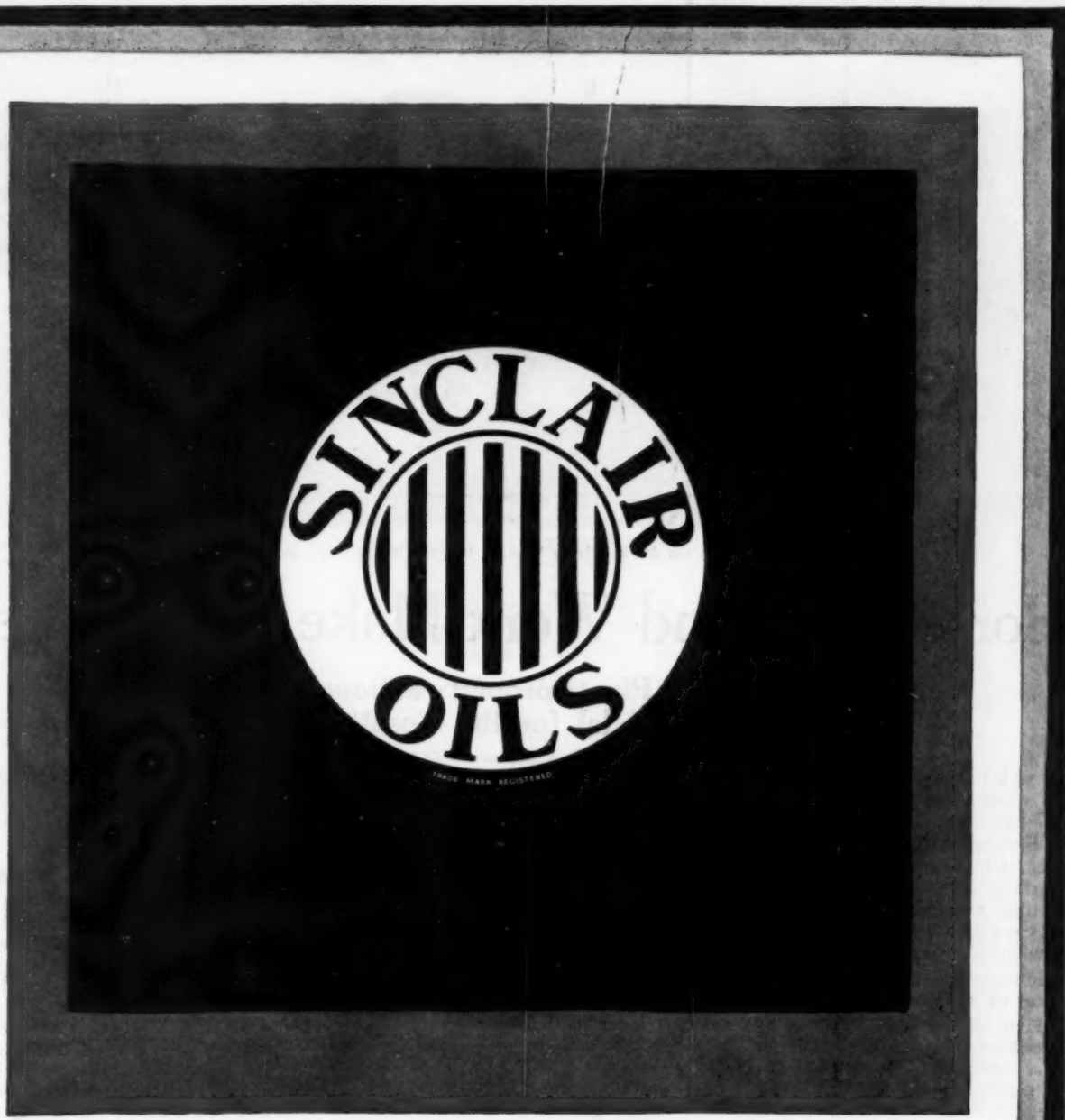
Montana

Sunburst	.90	.70
Cat Creek	1.20	1.35

CANADIAN CRUDE

Oil Springs	2.30	2.15
Petrolia	2.23	2.08

*Plus 2½ cents bounty.



BEHIND the Sinclair trade-mark are Sinclair's Refineries producing a line of oil products of high uniform quality—a quality that is maintained in every can, barrel or tank car showing the Sinclair trade-mark.

SINCLAIR REFINING COMPANY

New York: Sinclair Oil Bldg., 45 Nassau St. Chicago: 111 W. Washington St.

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EAST CHICAGO, INDIANA
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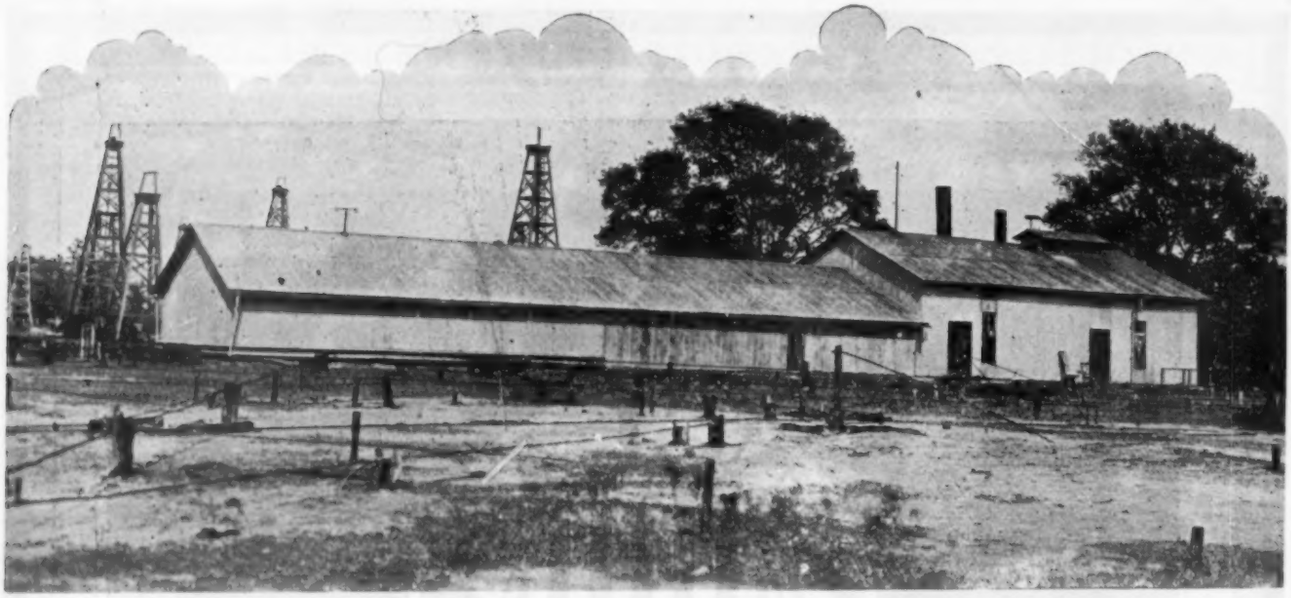
CUSHING, OKLAHOMA
MUSKOGEE. OKLAHOMA
HOUSTON, TEXAS
WELLSVILLE, N. Y.
PHILADELPHIA, PA.
(under construction)

SINCLAIR OILS



Power on the M. E. Pivoto lease of 42 wells in the Sour Lake field

Horse Sense and Work Make a Good Lease

M. E. Pivoto property at Sour Lake is a model for the Coastal fields

TAKE some good oil field ingenuity commonly known as 'horse sense,' a willingness to work and plenty of equipment, both new and used. Put them all on one lease and keep them working daily. The result will be a rattling good power and a lease that sets out like a sore thumb, incased in a white bandage.

For proof of all this, the Sour Lake lease of M. E. Pivoto is offered.

First, Mr. Pivoto believes in a balanced power. He knows that cleanliness adds to the life and effectiveness of machinery and equipment. After a piece of machinery has ceased to function in the purpose for which it was originally intended, Mr. Pivoto makes it play some other part in the operation of the lease. He puts no restraint on the imagination of men working on the case, so far as the development of new equipment is concerned.

Some of the principles involved in running the Pivoto lease may have been used elsewhere, but they are rare enough, and have proved profitable enough, to warrant a description.

Most prominent among features of the Sour Lake lease is the balancing of power. Every factor in the layout of the lease points to a perfectly balanced power and the conservation of energy as its ultimate objective. In anchoring the power wheel, conservation of both human and mechanical energy was accomplished. The floor of the power house is three feet lower than the surface of the ground, allowing the shackle rods to be carried along about a foot above the ground. In traversing the lease, no time is wasted by stopping to crawl under or climb over the rods. The portion of shackle rod supports above the ground is less than that of the ordinary support. This means that the supports will last longer than those which hold the shackle rods two or three feet above the ground. The tension on the top, caused by the rod moving backward and forward over the support, working it loose in the foundation, will not be so destructive if its leverage is reduced. With the stability of the support guaranteed by the relative shortness of the above ground part, a smoother working surface is obtained for the rod to pass over. This has a tendency to reduce the jagged resistance to the steady pull of the power that is often caused by a series of loose shackle rod supports moving to and fro with the motion of the rods.

Cleanliness and orderliness are two very noticeable things in the power house. At one end of the house there is a tool rack with a place for every tool used in the power, and every tool is kept in its place when not in use. From end to end, the cement floor is immaculate. For more than two years the floor has been kept practically as clean as it was when first laid. No special preparations or patented processes are responsible for this condition. A few bars of Octagon soap and a plenty of elbow grease have done the work. A Goodrich endless rubber belt has pulled the power wheel since it was installed more than two years ago. Its condition today is practically the same as it was when shipped from the factory. The belt is wiped off and treated once a day as it continues to do its work.

Home Built Wheel

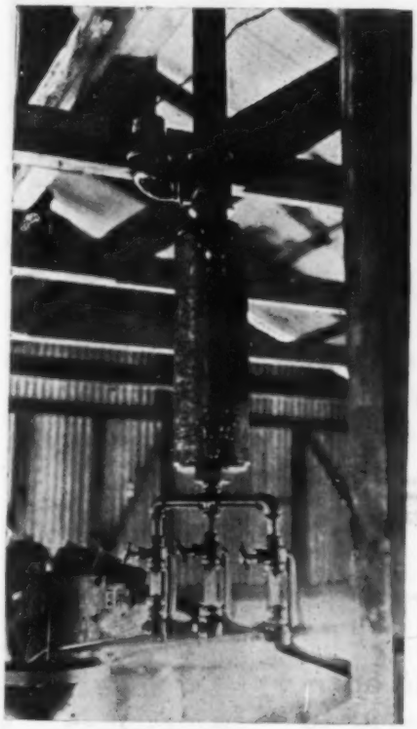
Thoroughness, accuracy and economy are seen in the construction of the wheel and eccentrics and their accompanying fixtures. The wheel is a home-made affair. The spokes and hub of an old wheel were used for the body, while the band of laminated wooden strips was made on the lease. Every spoke in the wheel was set in place with a level, in an attempt to make the belt run true on the band. The level test was applied to the band after all the spokes had been set. As a result of this thoroughness, the wheel travels without any discernable warble. The position of the belt on the band, even when the load coming from one of the radii is greater than that coming from the others, remains unchanged, except in instances where the difference in the loads is too great. In this case, the condition is remedied by the addition or subtraction of weight from one certain point. When a variance of the belt from its beaten track indicates a lack of balance, steps are taken immediately to bring about an equalization of loads. How this is accomplished is explained in one of the following paragraphs.

On the upper side of the spokes of the wheel is a sheet iron oil trap, which covers the entire horizontal surface of the wheel from the axle to the band. The iron is laid in a convex form which causes free oil to gravitate to the outer

edge of the wheel, where an outlet allows it to flow in a waste oil trap underneath the power.

As well as being effective, the oiling system of the power is one of the cleanest and most economical that can be used. It is home-made, a product of J. E. Clayton, foreman on the Pivoto lease.

Suspended from the ceiling of the power house by two inch pipe is a gallon-and-a-half oil container, made of a five inch nipple. It is fitted to the two inch suspension by means of reducers.



Lubricating device that keeps weekly consumption of oil on the Pivoto power down to a gallon and a half

A two-inch tee is screwed on the lower end of the suspension and the upper end of the container. An ell, running out horizontally from the tee and turning upward, serves the purpose of a replenishing inlet to the container. The outlet at the lower end of the container is reduced to a half inch pipe which feeds three lubricant drippers. Running vertically along the side of the container is a glass oil gauge with a valve at either end and a drain cock at the bottom.

By means of a short nipple, a half inch cross is attached to the container bottom and acts as a feed distributor. Two nipples project from the cross at right angles to the container. One short nipple projects from the opening opposite the feed entrance. Using an ell and a nipple on each end of the horizontal projections, three feed lines are extended downward. At the bottom of each nipple is placed a needle valve, regulating the flow of oil, which drops through a glass tube. At the foot of each tube is a large square nut through which a horizontal hole has been drilled. One end of the hole is plugged and from the other end extends a slender piece of one-fourth inch copper tubing which slopes downward, allowing the oil to drip on a certain part of the power. One copper tube lubricates the axle of the power, one the upper eccentric and one the lower eccentric.

Oil Feed Regulated

Drippings from the eccentrics are picked up on the convex spoke covering and carried to the outer edge. From the under side of the covering at the band a tube runs down at an angle to the waste oil pit surrounding the axle. Oil from the axle gravitates into this pit.

The above oiling system has saved Mr. Pivoto considerable money. By regulating the needle valves so one drop of oil falls on each of the eccentrics and axle at intervals of about 12 seconds, one and one half gallons of oil lubricate the power for a week.

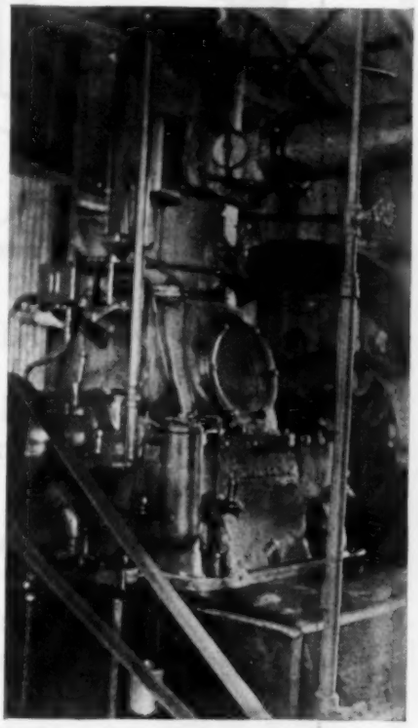
Waste oil in the pit is picked up once a week by an Armstrong hand pump and used on outdoor machinery of the lease.

Besides being a lubricant saver, the oiling system is partly responsible for the unusual cleanliness about the power and belt.

For power the Pivoto plant uses a 55 horsepower Fairbanks-Morse crude oil engine. The Fairbanks-Morse engine has pulled the power ever since its installation. In fact, the one oversight that might be attributed operating the lease is that the owner has never bought a belt for the steam auxiliary engine. Experience with the big crude engine has not taught him the need of a belt for the auxiliary.

The line shaft between the engine and the power is equipped with a Dodge clutch.

Illustrating the care taken of equipment in the power house is the extra pulley which has been installed at the base of the belt tightener and at right angles to the tightener. The purpose of the pulley is not to cure an evil, but to prevent it. In case of an accident, like the loss of a load from one direction, or anything that might cause the belt to travel up and down on the vertical pulley of the tightener with danger of coming off the power, the extra pulley will lessen the probability of a thrown belt. If the belt should slip off the idler of the tightener and fall downward, the little pulley would prevent its becoming entangled in the support apparatus of the idler and getting torn on sharp corners of the tightener cradle.

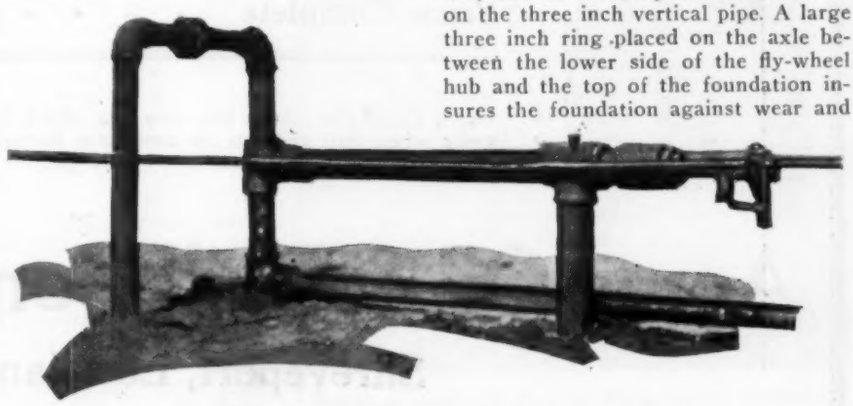


Fairbanks-Morse 55-horsepower engine which drives the power

Balancing the Power

Natural ingenuity is seen in one of the home-made inventions used on the lease for balancing power. By employing discarded drilling engine fly-wheels as swings, effective balancing outfits have been constructed.

A piece of three inch pipe is sunk perpendicularly in a foundation of cement, housed between old rig timbers. The pipe, which serves as an axle for the flywheel, is made rigid at the top by two or more guys, distributed according to the direction from which the load on the balancer comes. Old shackle rods are used for guys. As the number of wells to be balanced justifies, one or more fly-wheels are fitted on the three inch vertical pipe. A large three inch ring placed on the axle between the lower side of the fly-wheel hub and the top of the foundation insures the foundation against wear and



Shackle rod driven line pump made from pipe fittings

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Say you saw it in The Oil Weekly

Small pulley at right prevents belt from dropping down to strike mounting of larger belt tightener pulley

offers a smooth bearing upon which the wheel rotates. In the event more than one fly-wheel is put on the pipe, a ring is used between wheels. Shackle rods running from the power to the balancer and from the balancer to the well are attached to the band of the fly-wheel by an extended "U". The closed end of the "U" is fastened to the shackle rods with a clamp. The open end of the "U" is attached to the fly-wheel band. This is accomplished by drilling a hole through the band and the open ends of the "U" fitting the ends of the "U" over the hole in the band and droping a stud bolt in the hole. As an oiler the small end of a reducer is screwed in the top of the stud bolt. A very small hole in the bottom of the reducer allows oil to leak slowly on the stud bolt, keeping it lubricated.

By using the above arrangement, wells located north of the power can be pulled so that the strain on the power will come from east, south or west. The fly-wheel balancer makes possible the distribution of load at will.

Another home-made piece of machinery on the Pivoto lease is a pump, made largely of pipe fittings. The pump is used to pick up oil from a pit and pump it to tanks.

The barrel of the pump rests in a tee supported by a two-inch nipple, one end of which has been driven in the ground. On top of the tee is a set screw, holding the horizontal barrel in place and permitting its removal when repairing or cleaning is necessary. A piece of one inch pipe, plugged at one end, acts as the pump shaft. It is held in line at one end by cups and a plunger, and at the end of the barrel a 2-to-1 inch reducer serves the double purpose of a bearing for the shaft and a stuffing box. A tee is screwed on the intake and outlet end of the barrel with the open ends running vertically. On the bottom of the tee is screwed a nipple about six inches long. This nipple encloses a ball and seat for the intake. On the upper end of the tee a similar arrangement has been constructed for the outlet. For power the pump depends on the motion of a shackle rod which runs parallel to and about two inches away from the barrel. The end of the pump shaft is fitted with an ell and a short nipple which connects with a ring clamped on the shackle rod. The pump can be disconnected from the shackle rod by simply turning the shaft at either end of the stroke.

According to the lease operators, this pump costs about as much as a cheap small pump, but is effectiveness is far greater than that of the bought machine. The cost of up-keep on the home-made pump is negligible and its life is incredibly long.

Standard Occupies New Building

Los Angeles, Calif., Nov. 22.—The Standard Oil Company of California took possession of its new building in Los Angeles November 15 and during the week the officials and employes were trying to make themselves at home. The Standard now occupies its own buildings in both San Francisco and Los Angeles. The new Los Angeles building is located at 10th and Hope streets, is eight stories in height and is modern in every respect. Pipe line department moved in November 15 and the sales department was moving in this week. It is not yet known if the field employes at Whittier will be moved to Los Angeles or not.

New California Supply House

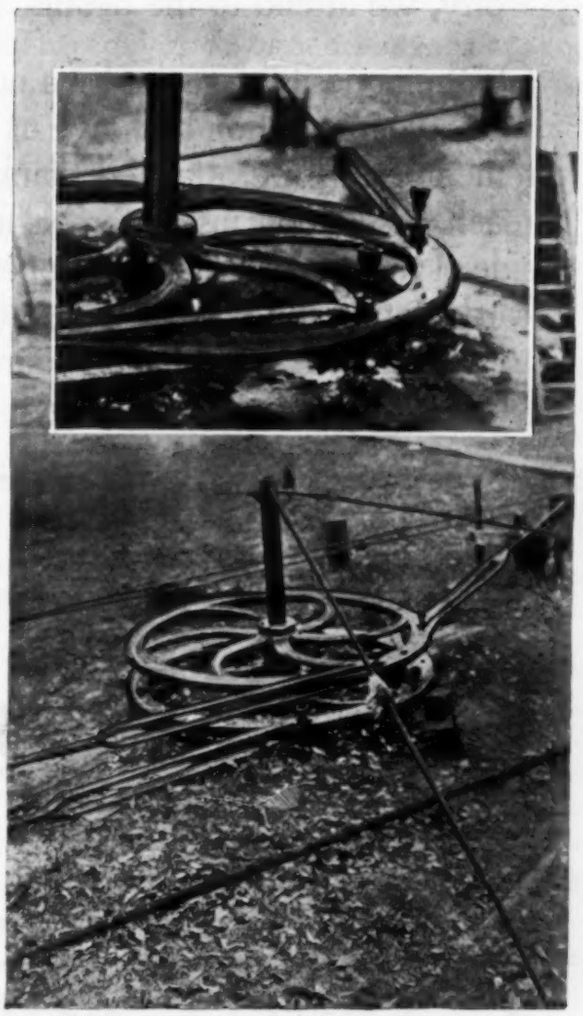
Los Angeles, Calif., Nov. 22.—C. N. Abbott and C. A. Taylor have formed a company to be known as Abbott & Taylor to deal in oil field equipment with Los Angeles headquarters office at 1109 East 8th street. Both members of the new firm have been connected with the oil supply business in California for years.

New Belgian Oil Import Law Military Measure

Washington, D. C., Nov. 24.—Details of the import regulations applying to petroleum, adopted by the Belgian government last month, have just been received in Washington.

The new regulations provide that wholesale importers must obtain licenses from the Minister of Finance, under which they are bound to form and maintain permanently a reserve stock representing at least one-quarter of the amount declared by them for sales within the country during the previous twelve months, and to deliver to the government at its request, at the market price, and with priority, any quantities it may need.

The decree is said to be purely a military measure. The reserve stocks which would be required are estimated to be in the neighborhood of 100,000 tons.



Method of rigging up discarded drilling engine fly wheels as swings for shackle rods

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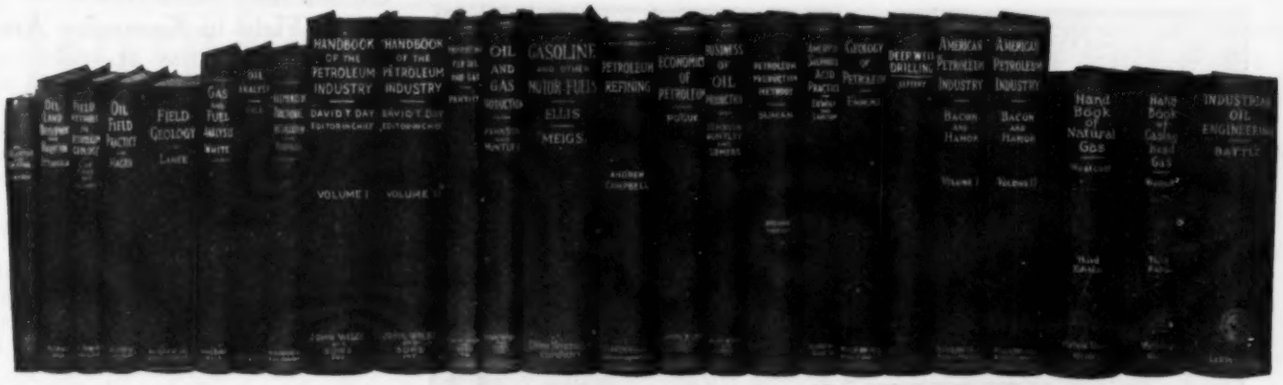

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Gusher May Mark New Field in Kentucky Area

Louisville, Ky., Nov. 24.—Conditions are showing better in all parts of the Kentucky field than at any period during the current year, as numerous properties are changing hands and operators are looking the territory over in spots that have never been given a test in hopes of developing something more startling in oil production.

Across the Kentucky border to the south and in Clay county, advice is that a gusher has been found on the Ham Lynn acreage in Tinsley's Bottom by DaFoe & Company, it being No. 2, which showed a flush production of 1,000 barrels from a sand found at a depth of 433 feet, and below the Pencil cave sand found across on the Kentucky side in both Monroe and Cumberland counties. The pay was found 105 feet under the Pencil Cave formation, and means that an important field may be found.

Rumors are that a deal is on for the sale of the big holdings of the Union Gas & Oil Company, located along the line of Lawrence and Johnson counties, in the eastern part of Kentucky, which will involve millions, as the leases cover around 19,000 acres, upon which approximately 570 wells have been drilled, with 69 gas wells and but 8 dry holes, all others being oil producing wells with an output around 2,500 barrels daily. It is said that the Swiss Oil Corporation, already a large producer in the Kentucky fields, is the prospective buyer, and if such is the case it will give this company one of the finest oil producing and gas properties east of the Mississippi River. Oil is produced in both the Weir and Berea sands, known as Pennsylvania formations, the crude being of an excellent quality.

Some excellent wells are reported at the close of the week in both the Eastern, Central and Western portions of Kentucky, that are large enough to bring forth additional activity. In the Western portion of the state, the White Plains Oil & Gas Company of the Snowden-McSweeney Interest, listed a well on the Hornbuckle lease, in the Allen county field, with a production close to 300 barrels at a depth of less than 300 feet. In Cumberland county, the Raydure Interests drilled in a 300-barrel gusher on the Coop lease, at a depth of 950 feet. In the eastern part of the state, in Lawrence-Johnson counties field, Townsend & Garrison got a 100-barrel flush well in the fifth attempt on the Dobyne lease, in a northern extension of the Weir sand pool.

The Collier Oil & Gas Company, it is announced, has disposed of its holdings in the Cannel Creek area of Morgan county, in the eastern part of the state to Thompson & Danner, with a daily production of approximately 30 barrels from 14 wells. These same operators have taken over the pipe line franchise and three gas wells, close to West Liberty, in Morgan county, and will embark in the natural gas end of the game.

FIELD NOTES AND PRODUCTION STATISTICS

Outlook for Rosecrans in California Better

New field in Los Angeles county extended northwest and race is on again for light oil production

Los Angeles, Calif., Nov. 22.—The race is on once more in the Rosecrans field in Los Angeles County, where the production ranges from 36 to 42 gravity, the word to go coming immediately after a completion of a well making 1320 barrels a day in the northwest part of the field, extending the production area about half a mile. This well came in at midnight Tuesday, and Wednesday morning things were popping again in the field where more than $7,000,000 has already been spent against a production of less than $500,000 worth of oil.

E. J. Miley's Athens Community 1 came in at 4947 feet with an initial production of 1320 barrels of 36.1 gravity oil, cut one per cent. It had a casing pressure of 270 pounds, was flowing through a 42/64-inch bean or choke, and a string of 6⅝-inch had been cemented at 4915 feet. The first 12 feet below the cement was thin sand, while the remaining 20 feet was very rich. The well's production was down to about 1000 barrels on Thursday and Friday was producing around 900 barrels. If it declines much more, the tubing will be pulled and it will be drilled deeper.

Proves Larger Area

This new well is located about 2500 feet northwest of Union's Athens 1, the first actual producer in the field. It is some 2000 feet due west of Julian's two wells, which had been shut down for some weeks waiting developments. Julian will start operations at his two wells next Monday.

Developments at Rosecrans this week indicate that several hundred acres in northwest area is productive. The Shell Company and the Pan American are drilling two tests about 6000 feet northwest of the new Miley well, having reached a depth of 4200 and 4250 feet, respectively. It is now thought these wells will get production close to 5000 feet. If they prove productive, there will be a frenzy of drilling over an area of some 1500 acres, largely in town lots or community leases consisting of several lots blocked together.

There is considerable criticism lately of the action of the townsite company. Most of the lots were sold with restrictions against drilling for oil. It was reported that the company is asking $1,000 per lot for lifting of restrictions. Some of those holding leases are not ready to pay any such price and the matter may go into the courts.

The United Oil Company is preparing to drill two wells in the northwest area of Rosecrans, while The Petroleum Midway will drill three tests. George F. Getty is preparing to start two wells. Work has been resumed at the Dabney well, where work was shut down at a total depth of 5300 feet. E. J. Miley is drilling at about 4700 feet at his No. 2 Athens community. The Union Oil Company-Barnsdall interests are now drilling six wells in this newly favored section.

Seventeen Nearing Completion

In the Dominguez field, also in Los Angeles county, southeast of the Rosecrans field, 26 wells are producing a daily average of 32,000 barrels of oil, and 17 wells have already reached the sand and practically every one should be completed before the end of December. The Associated is drilling six wells on its 50-acre tract in the southeast part of the field and at least one well should be completed in the next few days. Immediately south of the Associated tract the United Oil Company has one well producing around 1250 barrels. No. 2 test, offset to east, found the sand at 4080 feet, which is about 30 feet higher than in No. 1, the producer. Finding the sand higher up indicates that the sand is not pinching out to the southeast as fast as was expected and probably means that the United's tract is better than at first thought. United's No. 3 is now drilling at 750 feet.

Two wells making a combined total of 800 barrels a day were completed during the week at Long Beach, from the upper sand. There are now 45 wells drilling at Long Beach and the daily production is about holding its own. The United Oil Company's No. 1 Bixby, only producer of clean oil west of American avenue, is still producing clean oil from a total depth of 4420 feet. The nearest production to this producer is about one-half mile southeast. United's No. 2 Bixby is drilling at 3750 feet.

Deep Well Blows Out

The General Petroleum's wildcat in Kettlemen Hills, Kings county, recently blew out at 5424 feet with a pressure of better than 600 pounds. The test had found some oil sands, very thin. A string of 6¼-inch had been cemented at 4653 feet just above the brown shale. The well was killed and it is expected that it will be necessary to cement a string of 4½-inch. Every inch will be cored and the drill will be sent ahead. The well has proved the presence of at least a thin oil sand in this district. But the hole is so deep and so small, there is not much chance for any real production from the original hole.

Big Well in Elk Hills

Recently Belridge Oil Company's No. 6, section 34-30-24, Elk Hills, came in for 2000 barrels at 2980 feet. This is the best well completed in this area for more than a year. The company is now drilling No. 7 at 2750 feet and it should be a completion in the next few weeks.

Production the past week in Los Angeles Basin showed a decline of about 400 barrels. Several wells were completed in the northern fields during the past ten days, and for that reason it is doubted if the state as a whole will show any real decline. If several wells are completed in the next two weeks in the Dominguez and Rosecrans fields, with older fields about holding their own, the state's production will double less show very little decline in December.

CALIFORNIA FIELD OPERATIONS

The following table from statistics compiled by State Oil and Gas Supervisor R. D. Bush for California for the past several weeks gives a true insight into field activities:

Month of—	New Wells started	Water Shut-off tests	Deepening jobs	No. Wells aband.
June, 1923	120	195	59	22
July	94	145	46	23
*August	96	141	41	26
September	122	194	39	36
October	114	131	38	25
November	100	151	48	23
*December	105	181	37	32
January, 1924	120	111	48	23
February	125	97	49	47
*March	142	183	81	99
April	130	154	76	34
*May	156	171	79	34
June	118	149	66	18
July	112	129	69	28
August	105	142	86	34
September	87	118	79	35
Week ending—				
October 4	18	30	21	2
October 11	22	27	15	6
October 18	18	27	21	4
October 25	20	17	15	3
November 1	23	29	17	5
November 8	17	23	22	10
November 15	16	20	13	5

*Denotes months with five weeks.

Average Daily Production for all U. S. Fields

Wyoming-Montana-Colorado

Average pipe line runs from the various districts in the Rocky Mountain region totaled 83,485 barrels. This was a decrease of 6,115 barrels as compared with the week ending November 15. Comparative daily runs are shown for both weeks:

Field—	Past Week	Prev. Week
Salt Creek	52,520	56,320
Lost Soldier	5,690	5,680
Cat Creek	3,640	3,575
Kevin-Sunburst	3,600	5,140
Grass Creek	3,465	3,170
Big Muddy	3,050	3 525
Rock River	3,000	3,300
Teapot	1,900	2,270
Craig	1,300	1,315
Lance Creek	1,045	1,310
Elk Basin	975	1,040
Poison Spider	900	930
Osage	350	385
Lander	325	390
Hamilton Dome	285	720
Notches	280	180
Pilot Butte	90	85
Greybull	80	95
Ferris	75	110
Miscellaneous	915	1 060
Totals	83,485	90,600

Louisiana

Haynesville	16,700	16 655
Cotton Valley	12,510	13,960
Caddo Light	9,745	10,140
Homer	7,030	7,130
Vinton	5,900	5,960
Bull Bayou	4 700	4,700
Bellevue	3,625	3,755
Caddo Heavy	2,030	2,290
Lockport (Lake Charles)	1,200	1,070
Evangeline	960	980
Elm Grove	660	685
Edgerly	560	490
Anse La Butte	25	20
Totals	65,645	67,875

Arkansas

Smackover Heavy	71,735	79,140
Smackover Light	31,400	32,240
El Dorado	11 025	11,310
Stephens	1,940	2,000
Irma	1,360	1,390
Totals	117,460	126,080

California

Los Angeles, Calif., Nov. 22.—The daily average production the past week in California by fields, compared with the previous week, with number of producing wells in several Los Angeles Basin fields, was about as follows:

	Past Week	Number of Prod. Wells	Prev. Week
Long Beach	130,500	496	130,000
Santa Fe Springs	54,500	346	54,500
Huntington Beach	43,500	295	42,000
Torrance	46,250	472	47,000
Dominguez	32,000	26	33,250
Rosecrans	3,600	7	4,000
Others	276,650		284,250
Totals	587,000		595,000

Oklahoma

Field—	Past Week	Prev. Week
Tonkawa	99,910	93,100
Burbank	72,840	71,275
Bristow	50 965	51,300
Cromwell	47,715	44,985
Osage (outside Burbank)	38,985	39,840
Okmulgee	25,800	25,965
Cushing	23,745	23,890
Gilcrease-Papoose	27,535	19,855
Hewitt	18,530	18,645
Wewoka	12,820	13,250
Healdton	12,495	12,590
Duncan and Walters	8,700	8 740
Stroud	4,315	4,310
Other fields	78,300	78,940
Totals	522,655	506,685

Kansas

Greenwood	21,260	20,785
Eldorado	16,560	16,665
Rainbow Bend	8,300	8,390
Elbing and Peabody	8,000	8,050
Fox-Bush	4 900	4,930
Augusta and Douglas	3,035	3,060
Blakenship	2,825	2,860
Florence and Covert	2,400	2,415
Other fields	18,845	18,860
Totals	86,125	86,015

Texas

NORTH-CENTRAL

Corsicana-Powell	68,212	69,425
Archer County	41,270	33,125
Mexia	23,450	23,600
Richland	19,700	20,400

Field—	Past Week	Prev. Week
Electra	18,745	18,895
Stephens County	16,945	17,080
Burkburnett	16,825	16,685
Reagan County	6,815	7,135
Ranger-Eastland	6,290	6,300
Desdemona	5,590	5,560
Vernon-Wilbarger County	5 025	5,000
Young County	3,960	4,120
K-M-A	3,160	2,960
Moran-Shackelford County	2,930	2,950
Currie	3,000	2,960
Mitchell County	1,575	1,580
Panhandle District	1,380	1,450
Callahan County	1,445	1,450
Iowa Park-Shappell	1,480	1,335
Strawn-Palo Pinto County	740	765
Brown County	725	730
Petrolia-Clay County	360	345
Coleman County	70	80
Thrall-Williamson County	80	80
Montague County	55	25
Scurry County	15	55
Jack County	30	30
Totals	249 872	244,095

GULF COAST

Hull	15,700	15,550
Orange	14,200	14,400
West Columbia	12,500	12 600
Goose Creek	9,900	10,750
Humble	5,100	5,200
Sour Lake	4,075	4,150
Big Creek	2,100	4,200
Batson	1,600	1,645
Saratoga	1,525	1,480
Damon Mound	1,325	1,280
Spindletop	1,275	1,260
Blue Ridge	750	750
Pierce Junction	600	610
Markham	210	65
Barbers Hill	155	135
Nacogdoches	110	110
High Island	65	90
Dayton	60	45
Hockley	10	20
Totals	71,260	74,340
Luling	36,300	37,000
Mirando	8,400	7,900
Somerset	4,400	4,100
*Misc. South Texas	1,250	1 160
Totals	50,350	50,160
Totals Texas	371,482	368,595

*Includes Callahan, Rockdale and Minerva.

Condensed U. S. Production for Twelve Months

(Stated in Barrels)

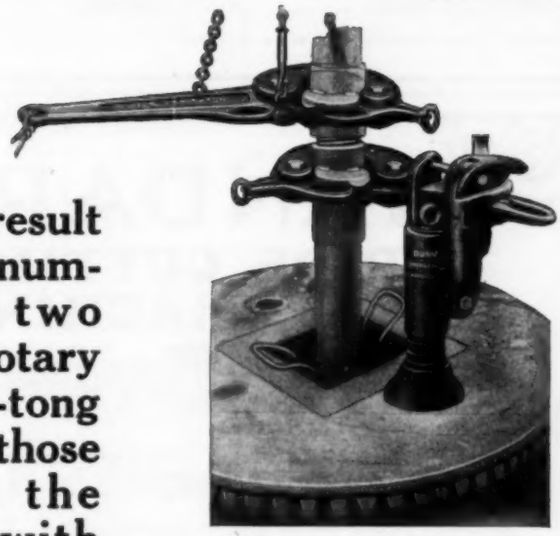
This table is carried each week by The OIL WEEKLY, and shows dail production average for each state or section. Figures for Oklahoma, Kansas, Texas, Louisiana, Arkansas and Mountain States are compiled by The OIL WEEKLY, while estimates for California and Eastern States are furnished by the American Petroleum Institute.

Daily average for month	*Mid-Continent	North Central Texas	Texas Coastal	Texas Total	Kansas	Okla.	Louisiana	Eastern States	Wyo. Mont. and Colo.	Calif.	Ark.	U. S. Total
January (1923)	708,372	184,885	115,628	304,790	86,720	436,767	81,205	113,500	123,254	517,500	111,920	1,770,645
February	712,007	180,364	96,984	286,493	85,298	446,345	78,068	112,500	110,328	587,500	101,346	1,805,496
March	720,287	184,582	89,873	283,355	86,012	449,693	75,352	109,900	118,580	653,000	108,630	1,888,522
April	756,381	192,148	92,320	293,780	86,133	478,100	76,854	106,000	127,860	711,250	102,099	1,983,026
May	793,774	203,776	90,905	304,032	85,500	504,498	75,368	109,125	125,680	700,125	109,033	2,010,840
June	824,297	217,162	92,240	320,250	85,255	521,880	72,745	110,300	129,559	773,000	133,592	2,159,818
July	866,665	274,330	91,795	378,335	84,785	508,405	70,085	113,000	137,300	851,000	132,395	2,275,305
August	826,982	278,574	94,398	393,780	82,741	464,416	68,739	112,625	137,909	866,250	123,000	2,251,966
September	830,517	371,730	93,649	443,461	77,078	421,763	68,935	108,400	157,742	858,700	127,955	2,269,176
October	876,059	408,036	84,120	511,483	71,362	371,657	65,305	107,750	139,912	823,125	125,145	2,240,741
November	935,975	479,383	82,747	580,700	69,337	287,253	64,701	108,125	151,225	768,275	124,188	2,253,806
December	729,591	283,130	78,033	378,478	68,444	378,017	61,138	110,300	146,770	723,845	120,044	1,987,041
January (1924)	685,540	243,120	75,085	334,485	67,815	374,605	59,125	108,000	144,735	698,965	114,255	1,900,985
February	729,933	254,180	81,131	362,849	68,183	407,568	59,449	104,500	141,775	675,425	114,726	1,934,476
March	762,684	284,874	78,567	388,221	69,864	407,946	55,783	97,800	128,352	650,790	119,869	1,917,023
April	777,590	276,595	76,755	380,005	71,015	429,980	54,740	101,250	127,700	649,825	128,750	1,943,270
May	763,320	267,475	74,175	374,915	71,490	424,355	60,655	103,800	127,770	640,930	148,630	1,952,545
June	799,230	260,785	74,335	375,310	74,265	464,175	62,660	105,750	125,735	628,400	157,165	1,993,465
July	815,830	254,665	75,445	378,365	81,545	479,620	63,855	107,175	124,305	620,175	148,655	2,003,695
August	861,640	254,520	75,700	377,045	85,765	521,355	62,595	107,000	123,895	619,200	142,740	2,037,890
September	886,650	253,243	76,953	366,197	86,758	546,647	62,162	107,622	117,345	611,500	131,343	2,029,580
October	855,823	247,222	75,713	359,861	86,884	521,717	62,493	106,600	107,270	605,060	123,235	1,972,902
November 7	843,197	246,072	71,980	365,602	86,020	511,105	66,105	106,500	99,970	600,000	119,920	1,955,222
November 14	836,795	244,095	74,340	368,595	86,015	506,685	67,875	106,000	90,600	595,000	126,080	1,946,850
November 21	858,652	249,872	71,260	371,482	86,125	522,655	65,645	106,500	83,485	587,000	117,460	1,940,352

*Includes North Central Texas, Kansas, Oklahoma.
NOTE—Mexia production included in North Central Texas.

Cannot Crimp, Crush, Flatten, Dent or Otherwise Injure Pipe!

DUNN
(NO BUSHING)
ROTARY TONGS



Unusual simplicity: the result of the use of a minimum number of parts. Made in two styles, as illustrated, in all rotary drill-pipe sizes. The table-tong is especially adaptable to those districts in which it is the practice to break down with the rotary.

Carried in Stock by

The National Supply Companies

Say you saw it in The Oil Weekly

Imports of Petroleum at Principal United States Ports

The following represents the total imports of crude oil for the month with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at All Ports
October	365,000	292,000	1,194,000	536,000	816,000	3,203,000	988,000	1,330,000	380,000	50,000	2,248,000	5,951,000
November	223,000	395,000	1,194,000	576,000	757,000	3,145,000	1,478,000	1,000,000	551,000	111,000	3,287,000	5,432,000
December	474,000	574,000	1,243,000	606,000	1,024,000	3,917,000	2,019,000	1,832,000	933,000	259,000	5,043,000	8,960,000
January, 1924	398,000	531,000	1,060,000	376,000	949,000	3,314,000	1,295,000	887,000	689,000	15,000	2,936,000	6,250,000
February	520,000	527,000	639,000	458,000	771,000	2,865,000	1,558,000	1,284,000	525,000	195,000	3,562,000	6,427,000
March	802,000	734,000	1,243,000	502,000	1,668,000	5,049,000	2,346,000	1,689,000	1,116,000	301,000	5,257,000	10,281,000
April	653,000	664,000	1,371,000	407,000	1,067,000	4,162,000	1,641,000	1,492,000	510,000	68,000	3,711,000	7,873,000
May	693,000	618,000	1,368,000	264,000	1,329,000	4,272,000	1,398,000	1,308,000	884,000	169,000	3,759,000	8,031,000
June	515,000	466,000	1,864,000	292,000	1,026,000	4,163,000	1,769,000	1,079,000	685,000	145,000	3,678,000	7,841,000
July	375,000	260,000	1,971,000	179,000	1,114,000	3,899,000	1,418,000	1,211,000	579,000	153,000	3,361,000	7,260,000
August	463,000	400,000	1,958,000	468,000	788,000	3,945,000	1,857,000	1,210,000	547,000	80,000	3,694,000	7,639,000
September	437,000	193,000	828,000	330,000	878,000	2,666,000	1,090,000	1,350,000	605,000	87,000	3,132,000	5,798,000
October	665,000	.....	1,588,000	136,000	224,000	2,590,000	658,000	1,090,000	285,000	70,000	2,103,000	4,643,000
November 1	65,000	132,000	74,000	200,000	79,000	550,000	483,000	245,000	252,000	60,000	1,040,000	1,590,000
November 8	200,000	175,000	591,000	229,000	286,000	1,481,000	206,000	269,000	60,000	.....	535,000	2,016,000
November 15	310,000	.....	378,000	110,000	181,000	979,000	407,000	343,000	144,000	20,000	914,000	1,893,000

NOTE—Figures by American Petroleum Institute.

Receipts of California Oil at Atlantic Coast Ports

The following shows the receipts of California oil at Atlantic Coast ports by months with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at All Ports
October	779,000	224,000	2,503,000	779,000	429,000	4,714,000	.....	746,000	.....	.....	746,000	5,460,000
November	591,000	155,000	2,302,000	584,000	271,000	3,903,000	.....	935,000	.....	.....	935,000	4,838,000
December	454,000	215,000	2,901,000	813,000	753,000	5,136,000	.....	729,000	.....	.....	729,000	5,213,000
January	619,000	77,000	3,156,000	659,000	503,000	4,660,000	.....	615,000	.....	.....	615,000	5,275,000
February	326,000	145,000	2,811,000	842,000	75,000	4,199,000	.....	810,000	.....	.....	810,000	5,009,000
March	298,000	77,000	3,352,000	989,000	413,000	5,129,000	.....	.....	.....	.....	.....	5,129,000
April	170,000	77,000	2,633,000	378,000	224,000	3,482,000	.....	.....	.....	.....	.....	3,482,000
May	190,000	147,000	2,771,000	411,000	273,000	3,792,000	.....	315,000	.....	.....	315,000	4,107,000
June	522,000	147,000	2,490,000	443,000	220,000	3,822,000	.....	.....	.....	.....	.....	3,822,000
July	167,000	70,000	2,017,000	374,000	188,000	2,816,000	.....	75,000	.....	.....	75,000	2,891,000
August	400,000	.....	2,914,000	288,000	520,000	4,354,000	.....	30,000	.....	.....	30,000	4,384,000
September	290,000	148,000	2,737,000	327,000	81,000	3,583,000	.....	.....	.....	.....	.....	3,583,000
October	378,000	217,000	2,338,000	379,000	160,000	3,472,000	.....	.....	.....	.....	.....	3,472,000
November 1	.....	.....	513,000	164,000	.....	677,000	.....	.....	.....	.....	.....	677,000
November 8	.....	223,000	337,000	.....	80,000	640,000	.....	.....	.....	.....	.....	640,000
November 15	180,000	.....	387,000	105,000	.....	672,000	.....	.....	.....	.....	.....	672,000

NOTE—Figures by American Petroleum Institute.

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MACHINES

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Enduring strength, swift, efficient action, operating economy—all these are what you naturally look for in a Pipe Threader and Cutter; and all these are inherent characteristics of the STANDARD.

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ELLWOOD CITY, PENNA.

WIELAND

Oklahoma Production Noticeably Increased

Tonkawa and Gilcrease-Papoose responsible for upward trend while others hold their own

By W. Lee Sloan
Staff Representative

Tulsa, Okla., Nov. 25.—An increase of 14,000 barrels in the daily average production of Oklahoma is recorded for the past week. This is the largest increase the state has shown in some time for one week as the total output has been fluctuating around a daily average of 510,000 barrels for the past month, showing very little gain or lose.

The wells drilled in on proven and semi-proven areas are responsible for this increase. The deep sand wells in the Tonkawa field contributed almost 7,000 barrels of the increase while the Gilcrease-Papoose pool in Okfuskee and Hughes counties increased its total over last week about 6,000 barrels. The increase in the other fields was just about sufficient to offset the decline in the remaining pools of the state.

Three months ago Gilcrease-Papoose was looked upon as a small producing area. Today it looms up as one of the determining factors in the winter's total recovery of crude for Oklahoma. With the successful completion of several extension wells to the Papoose pool, the daily average production has been on a steady incline and the production is now estimated at 27,535 barrels as a daily average for the seven days just passed. It is the northeastern extension of the Papoose pool that now looks big to the operators in that district. Almost every well brought in in this end of the field has proven a producer of over 2,000 barrels per day.

The Kingwood Oil Company No. 1 H. Sands, in the center of the southeast of the southeast of the southwest of section 35-10-9 in Okfuskee county has increased its flow from five barrels to 27½ barrels per hour after receiving three small shots of nitroglycerine of three, five and seven quarts each. T. B. Slick's No. 2 Grayson-Murray, in the center of the northeast of the northeast of the northeast of section 3-9-9, northeast part of the Papoose pool, has found the sand from 3309 to 3317½ feet and it is now flowing at the rate of 75 barrels per hour. Independent Oil & Gas Company No. 1 Alexander, in the center of the northwest of the northeast of the northeast of section 2-9-9 made 65 barrels per hour from a total depth of 3357 feet, while the same company's No. 2 Izora Alexander in the center of the southwest of the northwest of the northeast of the same section, made 825 barrels of oil during the first 15 hours from a sand from 3337 to 3344 feet.

Holdenville District

The daily average pipe line runs from the Holdenville district, in which is located the Cromwell and Papoose-Gilcrease pools, shows an increase for the past week with a total of 78,088 barrels as a daily average. Following is a list of companies taking this oil, with the number of barrels being run:

	Barrels
Cosden Pipe Line Co.	5,827
Gulf Pipe Line Co.	6,761
Magnolia Pipe Line Co.	18,292
Oklahoma Pipe Line Co.	5,996
Ozark Pipe Line Co.	4,945
Prairie Pipe Line Co.	10,917
Shaffer Oil & Refining Co.	1,080
Sinclair Pipe Line Co.	12,094
Storage	5,969
Empire Pipe Line Co.	1,469
Pure Oil Co.	938

Tonkawa Back to 100,000

On one day of the past week, the Tonkawa field lacked only 92 barrels of again reaching the hundred thousand barrel mark in daily production. The production reports show that the total output for that day was 99,908 barrels from 715 wells. The 48 deep sand wells of the field produced 77,771 barrels on that day. The increase over the previous week was 5,797 barrels with six new producers. The total recovery from the deep sand to date is 7,954,846 barrels.

Although the Noble county side of the Tonkawa field has not been as active as the Kay county side, the Gypsy Oil Company No. 82 Shawver has stimulated the activity there by the successful completion of a 75-barrel per hour well. This well is located in the center of the northeast of the northwest of the northwest of section 2-24-1 west, and it now has a total depth of 4,090 feet.

The Roxana Petroleum Corporation claims that 75 per cent of the sand found in the Cromwell pool is lime.

The increase of 1,411 barrels in the daily average production of the Burbank field has been brought about entirely by the Phillips Petroleum Company. This company has a daily average increase in its production of 9,368 barrels, enough to offset the decline of the other companies and have a surplus of the total increase as shown above.

Cleaned With Air

The Tidal Osage Oil Company has completed their experiments with cleaning out their No. 6 well in the southeast quarter of section 4-26-6 with compressed air. The method has cleaned out 47 feet of cavings in the hole in four days.

The Independent Oil & Gas Company wildcat completion in section 6-15-6 in Lincoln county is producing approximately 186 barrels on each 24-hour gauge with the well still drilling in black lime at a total depth of 3804 feet. The Cosden Oil & Gas Company paid $300 per acre for a renewal on the northwest quarter of section 8-15-6, a mile and a quarter from the Independent well. The renewal was paid with $32,000 in cash and $16,000 in oil.

The Waite Phillips Company have a good producer in their No. 2 Barnett in the center of the southeast of the northeast of the northeast of section 31-14-10 in southeastern Creek county. The production is coming from the Wilcox sand from 3435 to 3447 feet. The first 15-hour gauge showed a run of 300 barrels.

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Crude Market Improvement Continues

(Continued from page 23.)

fuel will move at present prevailing prices. The posted price of fuel oil is $1.40 a barrel, but in local circles a few spot sales have been reported at $1.10 to $1.25. But these spot sales are small in volume and have practically no effect on the general market. The gasoline situation is only fairly steady. Bootleggers in Southern California, especially in the immediate Los Angeles district, continue to sell from 11 to 15 cents a gallon, including tax, at the filling stations, against a ruling price of 16½ cents. Only two stations are known to be selling gasoline at 11 cents, or at nine cents without tax. It is to be noted that the number of independent stations selling at prices below the price set by the leaders is slightly less in the past ten days. It is barely possible that prices will hold steady at the present level.

It has been known for some months that C. C. Julian had a little more than 400,000 barrels of Long Beach and Santa Fe Springs crude oil which he was anxious to sell, but with no buyers. About four weeks ago he offered this crude at the existing posted price, but without success. This week, it is generally reported in oil circles, that the Julian oil has been purchased by the Pan American, but the price paid could not be learned. This indicates a slightly stronger crude market. It is generally predicted now that there will be no change in crude prices in California until there has been announced at least two increases in the Mid-Continent, to total at least 50 cents a barrel increase.

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Record after record comes in of amazing fishing jobs performed as every-day tasks by the Devil's Steel Hand and Devil's Pitchfork. Here is the latest:

At Torrance the Consolidated Mutual Oil Company lost a section of a W. K. M. Rotary Slip. The hole was 3500 feet deep but luckily for them, the section lodged on a bridge just out of the 15½" casing.

Luckily also, they knew what to do under such conditions.

A 15¼" Devil's Steel Hand was run into the hole. On the first run it picked its fish off the bridge and the hole was clean!

Can you afford to be without tools that make such records as these almost every day in the year?

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Rental Branch: 424 E. Second St., Tulsa

FOR QUICK AND POSITIVE RESULTS—

DEVIL'S STEEL HAND AND DEVIL'S PITCHFORK

Phillips Pays $2,500,000 For Texas Gasoline Plant

Breckenridge, Texas, Nov. 24.—Producing properties and a natural gasoline manufacturing plant, which is rated as one of the largest in the world, operated by the E. A. Landreth Interests of Breckenridge, have been purchased by the Phillips Petroleum Company of Bartlesville, Oklahoma, for $2,500,000 and other considerations. The properties and plant involved in the transaction are located in the Ibex field, Shackelford county. The gasoline plant has a daily gasoline production ranging from 45,000 to 47,000 gallons, and is equipped to handle about 50 million cubic feet of gas daily through high pressure absorption units, while an additional 18 million cubic feet of gas is handled through low pressure absorption units. A charcoal process plant is operated in connection with this gas, and is netting a yield of about 9,000 gallons of gasoline daily from the residue gas of the high pressure absorption units.

The producing properties were operated by the Landreth Production Corporation, and consisted of approximately 2,120 acres of proven and semi-proven leases with 19 wells making 375 barrels of high gravity oil daily. The largest lease consists of 1440 acres on the Wm. Poindexter ranch with 12 wells making 225 barrels daily. The Phillips Petroleum Company acquired all gas contracts held by the Landreth Gasoline Company, and also the interest held in 32 miles of 16- and 12½-inch gas line constructed jointly with the Lone Star Gas Company from the Ibex plant to Ranger. A fleet of 125 insulated tank cars operated by Landreth were also included in the Phillips purchase.

Standard Keeps Roumanian Subsidiary

New York, N. Y., Nov. 24.—The Standard Oil Company (New Jersey), through A. C. Bedford, chairman of the board, denies the report from London that the Royal Dutch-Shell Interests will acquire the Romano-American Company, the Standard of New Jersey's Roumanian subsidiary.

New National Store at Olney

Wichita Falls, Texas, Nov. 24.—The National Supply Company is erecting a branch supply store at Olney, Texas, to accommodate its customers operating in the semi-shallow fields and wildcat areas in the Archer-Young county district. Hal F. Greer has been transferred from Smackover, Arkansas, to take charge of the new store at Olney, and a complete line of oil well supplies and rotary equipment is to be carried in stock.

"Better Be Safe Than Sorry"

The big companies no more neglect tubing catchers today than they neglect fire insurance.

After investing $50,000 and up in a well, they believe in PROTECTING that investment.

Tubing accidents, in many instances, have forced abandonment of valuable wells. In the majority of deep well accidents loss runs into thousands of dollars. A GUIBERSON Catcher, good for the life of the well, costs, for ordinary sizes, only $90.

THE GUIBERSON CORPORATION

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GUIBERSON

BETTER BE SAFE THAN SORRY

Seismograph and Torsion Balance Not New

(Continued from page 26.)

crew. Then there must be laborers to help move equipment over the area being prospected. A cook goes with each crew, for it must stay for long periods away from towns and must work regardless of weather, because of the enormous expense.

Being prepared against all weather requires portable housing for the instrument and comfortable quarters for the men.

While the cost of a seismograph, were they available, would not run as high as the torsional balance, its operation would cost more for the time it had to be at work. The use of dynamite brings the high cost for this instrument. Charges of dynamite run as high as 300 pounds for each explosion. In addition to moving the crew and buying dynamite, paying the men, the concern operating the seismograph also must take care of filling all holes made in blasting, as well as pay damages to buildings and live stock.

Success of scientific instruments on the Gulf Coast in the past two weeks has made it certain that the geologist must dig extensively into mathematics in the future and learn the operation of many instruments heretofore not considered part of his equipment.

But there is nothing in present development to warrant opinions that the day of the oil producer of limited means has ended, or that the geologist will drop out of the petroleum picture.

New Branch Store

Tulsa, Okla., Nov. 24.—The Bradford Rig and Reel Company are establishing a branch store at Adamsville, Kansas. The company just recently opened a branch at Winfield in Cowley county in that state.

Files Suit for Three Sections of Garber Pool

Enid, Okla., Nov. 24.—Sinclair Oil & Gas Company, Exchange Oil Company, Garfield Oil Company, and C. E. Gannon, T. E. Vessels, H. W. Thies, Laura Crews and Louisa Crews are made defendants in a suit involving several million dollars that has been filed here by Thomas L. Eggleston, a business man of Columbus, Miss., whose residence now is in Washington, D. C.

According to his petition, Eggleston claims complete title in fee simple to the mineral rights existing in the three sections of land in Garfield county, Oklahoma, which constitutes the Garber oil pool. The plaintiff seeks an accounting of oil produced on the three sections, an order restraining the oil companies from removing any property and for the appointment of a receiver for the properties.

S E R V I C E

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R E S U L T S

How the Seismograph Reveals Structure

(Continued from page 29.)

fulness in charting the depths of the sea by setting up sound waves that travel to the sea floor and are there reflected to the surface, making actual measurement of depth unnecessary, and accurate results, probably as accurate as a steel line with its elasticity, are secured by measurement of the time required for the sound wave to strike bottom and echo back.

Phillips Rushing Work On Kansas Pipe Line

Wichita, Kansas, Nov. 24.—With approximately two-thirds of the ditch dug for their new pipe line from the Rainbow Bend field of Cowley, the Waite Phillips Company of Tulsa, are rushing the completion of the line under the supervision of Roy E. Lewis. Already a crew has started to lay the pipe and have close to fifteen miles in the ditch.

The Waite Phillips Company is spending close to a quarter million dollars before placing the newly acquired refinery at Wichita in operation. The expenditure includes pipe line, pumping stations, tank cars and the overhauling of the refinery.

Close to $60,000 will be spent on the erection of two pumping stations. These plants will be two of the finest pipe line pumping plants in the Kansas oil fields. One will be erected on a site four miles south of Andover and ten miles east of Wichita, on part of the Marshall Steele farm. The other will be located at Udall. The pipe line will run due south for about 30 miles after turning at the Steele pumping plant.

Three pumps will be required to carry the crude the 45 miles. The third pump will be located in the field.

Tank cars, formerly belonging to the Sterling Refinery Company, acquired by the Phillips Company, are being sent to Coffeyville for repairs and repainting.

The overhauling of the refinery will be started immediately. The plant will be ready for operation again by January.

The Phillips Company is tearing up all the old Sterling lines to the Fox-Bush district, no crude is to be carried from that field.

It is evident that as the development of the Rainbow Bend field continues on the upward trend the field will supply the refinery with all the crude it can carry. The Waite Phillips share of the Rainbow Bend field will run approximately 4,500 barrels at the present time.

This is the second line to be laid to the new pool. The first was laid by the Kay County Gas Company (Marland), which has been running all the crude. The pool has a total of sixteen producing wells and not a dry hole. The average per well is over 600 barrels.

Drilling Rush Follows Showings at Wortham

Typical Balcones Fault Structure outlined by tests. Small tracts assure much work

By H. H. King
Staff Representative

Wortham, Texas, Nov. 25.—The race for the flush production on the Wortham structure is underway, and this new East Central Texas fault field is rapidly developing into one of the most active drilling centers in the country without waiting for the final completion of the first two tests to reach the Woodbine sand near the 3000-foot level. Lease owners are building derricks as fast as materials and labor can be assembled from other nearby producing centers, and more than 50 rigs will be spotted on locations before the close of the present week. Additional locations are being made daily to protect offsets.

Such a wild flurry of activity did not come unexpectedly, as the Wortham structure has been widely advertised as likely oil producing territory in recent weeks. When the Boyd Oil Company's two wildcat tests on the structure showed gas production with some oil after scratching the top of the Woodbine sand an unsuccessful effort was made by officials of this company and other large lease owners to hold back the testing of the structure until the crude market reaches a more substantial basis to receive a new flush field.

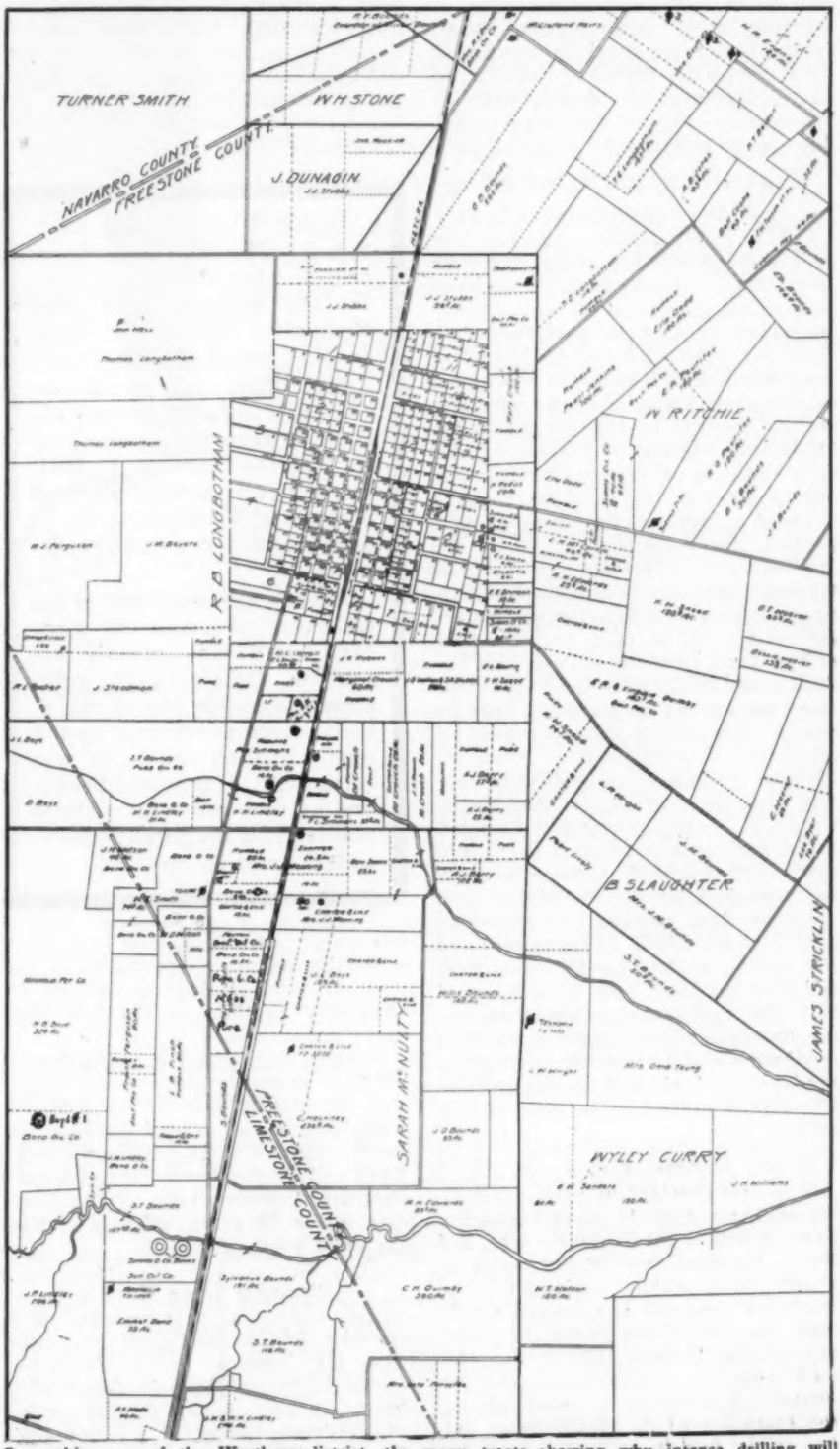
Drilling Rush On

New locations and actual drilling were started on leases scattered over the upper part of the structure early last week while earnest efforts were being made to hold back all developments by the majority of the lease owners, and Friday the officials of the Boyd Oil Company abandoned hope of delaying the field and began drilling in its N. B. Boyd 1, located in Freestone County and on a lease given by Magnolia to get a well drilled near its leases.

The Boyd test had been showing gas with traces of oil after drilling plug at 2960 feet early in November. When deepened Friday with cable tools logged shale and sand at 2962-65 feet. The hole filled several hundred feet with oil when the upper series of the Woodbine sand was drilled from 2977 to 2979 feet. Four feet of hard shell was passed through at 2988 feet into another layer of the oil sand and shale, as is usually found in the upper series of the Woodbine. After penetrating this formation four feet the well began flowing by small heads at three hour intervals Saturday. Further drilling was suspended to erect additional flow tanks. The oil produced by this well is reported to test 38½ gravity, corresponding to that produced in the Corsicana-Powell and Richland fields, located further northeast on the Mexia fault zone.

The small heads of oil made by the Boyd test literally served as a starter for the race for the oil expected from the Wortham structure, and new locations were made in rapid succession Saturday and through the fore part of this week. The Prairie Pipe Line Company started work on connecting its nearby trunk line to the well Saturday, and connections were completed early this week.

Sunday the Boyd Oil Company began work on drilling in its second wildcat test on the Wortham structure, located



Ownership map of the Wortham district, the many tracts showing why intense drilling will follow. The Boyd test is in the lower left corner

about 8000 feet northeast of the Boyd discovery well and about half mile south of the town of Wortham. This second test is located on the Roy Simmons lease, and logged the Austin chalk from 2224 to 2564 feet, with a surface elevation of 431.43 feet. Casing was cemented at 2903 feet on top of the Woodbine sand. When drilling was resumed Sunday the Simmons test began showing oil after penetrating the sand four feet, and continued to look more favorable for a good oil producer when the hole was carried to a total depth of 2938 feet, with extra heavy mud in the hole. The Simmons test is reported to give promise of a larger producer than the Boyd discovery well when completely drilled in, and drilling was discontinued late Monday to await the erection of seven 5500 barrel bolted flow tanks and several smaller sized ones.

Boyd Hole Caved

Col. A. E. Humphreys, who is president of the Boyd Oil Company, arrived at Wortham Tuesday from a duck hunt on the Gulf Coast, and the special drilling crew engaged by the Boyd Oil Company were switched back to the Boyd test to drill it in, but it was found that the hole had caved below the casing seat while being allowed to flow by heads. An attempt was made to run liner and shut off cavings, but it could not get bottom, so plans were again changed to complete the Simmons well ahead of the Boyd test.

Whether the Wortham structure will furnish production in sufficient quantities to give a setback to the crude market remains to be seen, but if a field of any great extent is uncovered a big flush production will be built up in less than six weeks, as the lease owners have already shown their intentions of protecting themselves from drainage. Most of the leases are held by companies that were rivals in the Mexia, Currie, Corsicana-Powell and Richland fields, and past experience has been costly in not offsetting every location well for well, as the Woodbine sand gives its flush quickly. Seven major pipe lines are within 48 hours reach of any section of the Wortham structure, and their combined capacity is in excess of 100,000 barrels daily, thereby removing any immediate danger of an over production, while surplus tankage is available at Mexia and Corsicana-Powell fields if needed to be pressed into service.

Water Scarce

A serious shortage of water for drilling purposes is already confronting the lease owners in the Wortham area, and this is the only possible preventive of a whirlwind drilling campaign. The Boyd Oil Company has erected a concrete dam across the Tehuacana Creek near the field, while Humble has also made some provisions for water. The Simms Oil Company is contemplating the extension of its Mexia water system to the field by stringing about five miles of pipe, while some of the operators already drilling are obtaining water from the city's water reservoir.

Lease activity has practically spent itself in the Wortham area, but not until acreage prices soared to $1800 per acre for wildcat, or semi-wildcat stuff. Town lots within the corporate limits of Wortham have been leased solid in the east half of the town, and town lot drilling is already underway. Leases are mostly in small tracts, especially in and around the town of Wortham, and an unnecessary number of locations will be made to obtain full protection from drainage. The lease speculators were practically bought out prior to the oil strike fade by the Boyd test, and acreage is now held by companies and operators that bought in to obtain oil production. The Marland Oil Company of Texas is one of the few newcomers into Texas that have lease protection of any importance on the structure, and Marland is starting off with four locations on the Roy Simmons lease.

David P. Clark, 34, associated with the Gulf Company for five years, was accidentally killed at 7:45 a.m., November 23, while duck hunting near Bay City, Texas.

Mr. Clark was in the accounting department of the Gulf at Houston from June 15, 1919 to January 1, 1921. Subsequently he occupied the position of assistant to L. E. Delcuze of the executive department.

Among the employes of the Gulf and Houston oil men, Mr. Clark was greatly esteemed. Officials of the company mourn the loss of one of their most promising young men. In their words, he was "clean-cut, a thoroughbred—one of the 'whitest'." He is survived by his parents, three sisters and two brothers.

Royalty buyers have been bidding up prices to record levels in recent weeks, and the highest prices were paid for stuff lying in and around the east half of Wortham. Col. Humphreys and the Boyd and Trinity Companies have purchased practically all the royalty interests on the 500 acres in leases held by the Boyd Oil Company.

Structure Long Known

The Wortham structure has been considered favorable for oil production since the discovery of the Mexia and Currie fields, and considerable drilling has taken place in this general section of Freestone-Limestone County since the oil strike at Mexia, but the wildcat tests straddled the structure just as was the case in early drilling around the Corsicana-Powell structure.

Interest in the Wortham area was revived last March when Carter-Lytle et al's wildcat on the H. C. Hackney land, located about one and one-half miles south of the town of Wortham and just east of the railroad, showed considerable live oil in Woodbine sand after drilling cement plug at 2963 feet, but deeper drilling failed to make a producer. The showing made by this test stimulated lease buying, with Humble taking the lead and spending about $100,000 for leases, which now give promise of being the heart of the producing area.

Several years prior to the drilling of the Hackney test, a good show of oil was reported in the Shankle and Hildreth wildcat on the R. G. Puerifoy land, located one-quarter mile due east of Wortham. Both of these tests are believed to be on the ragged edge of the east side of the Wortham structure, while Trapshooter Reilly Development Company's Mary Crouch 1, located northeast of the townsite, proved dry after drilling to 3220 feet and is conceded to be on the west side of the fault. The dry holes on the Crouch and Peurifoy lands are only one mile apart, and indications are that the Wortham structure is situated in between these two failures.

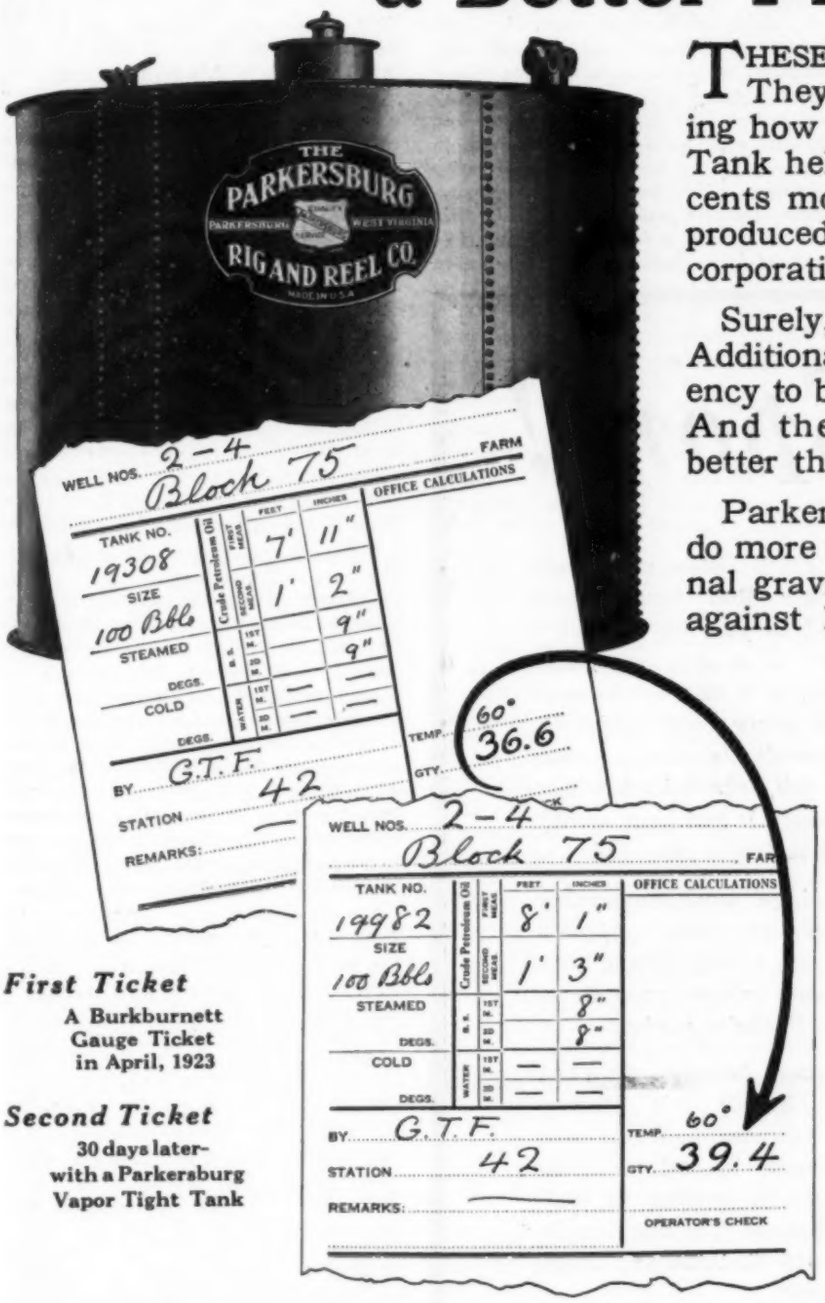
Encouraged by the showing made by the Hackney test, Carter-Lytle et al started a test last September on the J. J. Manning lease, located 2500 feet north and slightly west of their dry hole, and lost the hole with a gas blowout at 1681 feet. The shallow gas production, which is considered favorable indications in the East Central Texas fault region for deeper pay, attracted interest of many operators and royalty buyers to the Wortham district. After making a futile attempt to save the hole on the Manning lease, Carter-Lytle et al skidded over 40 feet west and got a second blowout at the 1200-foot level, and are now making a third test, located 300 feet east of the Manning No. 1.

Boyd Test Over Fault

The Boyd Oil Company was engaged in taking more protection in the Wortham area prior to the shallow gas strike on the Manning lease, and during the first week in October was given a 75 acre lease off the south end of Magnolia Petroleum Company's N. B. Boyd lease, providing drilling started within 10 days and 200 feet of Magnolia's property line. The Boyd Oil Company's Boyd 1 was spudded during the first week in October, and logged the Austin chalk formation from 2723 to 2751 feet, with a surface elevation of 463 feet.

Since this test only encountered 28 feet of chalk as compared to a normal thickness of about 450 feet, it is generally accepted as being directly in the fault, and establishes an approximate

A Better Tank *and* a Better Price for Oil



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A Burkburnett Gauge Ticket in April, 1923

Second Ticket

30 days later—with a Parkersburg Vapor Tight Tank

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Season's Results Fail to Maintain Production Level of Canadian Fields

Calgary, Alta., Nov. 24.—With another season nearing its close conclusive results in the way of new oil production are still lacking from any of the Canadian fields.

The need of such production is indicated by the fact that while the restricted Canadian fields in 1923 produced only 170,169 barrels of crude, a decline of 9,000 barrels from the previous year, in the fiscal year ending March 31, 1924, imports of crude oil for Canadian refineries from the United States and Peru, totalled 11,965,468 barrels. Most of the very small production of Canadian crude still comes from southwestern Ontario, with a few thousand barrels from New Brunswick and Alberta.

In these production totals the Fort Norman area is not a factor, and is not likely to become a factor for some years to come. Though the discovery well below Fort Norman when opened up shows an undiminished production, further drilling has failed to develop anything as yet; and lack of transportation facilities renders it unlikely that this oil will be a factor in the world's markets for a long time to come. In the only remaining oil-producing area in the Canadian West, the Okotoks field, recent drilling has resulted in increased gas production but no new oil production; though the wet gas production in this field yields a fair quantity of gasoline.

Results in the Irma-Wainwright field, east-central Alberta, are still indecisive. With three or four potential oil producers in this area, no crude has yet been marketed, or even produced in a commercial way; and the capacity of the wells can be merely guessed at. British Petroleums No. 4 looks like the best well of the lot; it shows some gas pressure and flows a little heavy oil, the production accumulated since the show was encountered aggregating about 200 barrels. British Petroleums No. 2, drilled in a year ago, has been fitted with pumping equipment, but has not been given a capacity test. British Petroleums No. 3 seems to have got a second oil sand and will probably be drilled in this month, if the severe weather lets up. Maple Leaf Oil & Gas Company No. 1, section 24-45-8w4, has been tubed, but looks like a gasser, with little if any appreciable oil production.

Two other tests are now drilling, the Western Consolidated on section 20-45-6w4 and the Wainwright Oil Producers Syndicate, section 36-44-7w4. Maple Leaf No. 2, British Petroleums No. 5, and British Wainwright Oil Company No. 1 are all reported ready to start, but so far have not spudded in.

In the Okotoks field, southwest of Calgary, the Royalite Oil Company No. 4, section 7-20-2w5, which has been blowing open at the rate of 21,500,000 cubic feet a day, recently caught fire, and steam boilers are being assembled in an effort to extinguish the flames.

In Ontario recent wildcatting has followed chiefly the line of deep drilling to the Trenton limestone. A year ago a lot of interest was aroused in the reported oil strike at the bottom of the Trenton in the Glenwood-Shanks well in Romney township, Kent county. Since then tests have been drilled west, east and north of this producer without getting anything; and the only remaining possibility of extension, toward the south, is cut off by Lake Erie. All the surrounding tests are dry, so far as oil and gas is concerned; and though the Glenwood-Shanks is pumping once a week and making about 70 to 100 barrels, it looks like a "freak" well.

The Glenwood Natural Gas Company is drilling another of a string of tests for gas along the Lake Shore, in Romney township, Kent county. Union Natural Gas Company No. 253, Carr farm, lake front, has finished a small gasser in the Tilbury sand, good for about 200,000 cubic feet a day; and No. 254 has been started on the back of the Carr farm.

The Regal Oil Corporation of Toronto is reported to be planning to open up and shoot some of the old producing wells in the Petrolia field.

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IF THIS Stewart Safety Sucker Rod Hook looks good to you, be a sport—try one! If it isn't as good as it looks, if it fails to do anything a safety hook should do, If it doesn't please every man on the job, take it back where you bought it and your money will be instantly refunded.

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If your favorite dealer doesn't handle this Stewart Hook you can find out who does handle it, and get some literature, by writing the Walter O'Bannon Co., sole distributors, 817 E. First St., Tulsa, Oklahoma.

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General Offices: Shreveport, La.

Cotton Valley Operators Win Court Decision Against Conservation Ruling

Shreveport, La., Nov. 24.—Moffett and Murphy's No. 1 Coyle, located near the center of section 28-21-10, of the Southwest Extension to the Cotton Valley Field, was swabbed in at about three o'clock this afternoon. No gauge is as yet available, but the well has the appearance of a 1500 barrel well. It is flowing clean pipe line oil by heads through the casing from 13 feet of sand at a total depth of 2577 feet. It is an offset to the Louisiana Oil Refining Corporation's Gray extension well, which is still flowing at the rate of 450 barrels of pipe line oil per day, through tubing and packer, and to the Humble Oil and Refining Company's Bodcau Lumber Company B-3, which is making around 2500 barrels per day through the casing, of which 3 per cent is b. s. and salt water. It is notable that, of this group of three wells, the most productive well is the deepest, below sea level, and, also, is as yet the only one which makes salt water.

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limit for the producing structure on the west. Subsurface information revealed by the Boyd test together with that of the Trapshooter dry hole northeast of Wortham permits an imaginary line to be drawn between the two tests in determining the west limits of the Wortham structure, while a line between the Hackney and Peurifoy failures furnish an approximate estimate on the east limits of the structure, with allowances to be made for noses projecting out at irregular intervals on both sides of the structure.

Conservative estimates place the length of the Wortham structure from three to five miles, with a width ranging from 1500 to 3000 feet. A field equalling the magnitude of Mexia or Corsicana-Powell is not expected, as dry holes lying in the path of the supposed trend of production delimits the structure to a length of about six miles, while surface geology indicates favorable territory extending about one mile northeast of Wortham and about three miles southwest of the town.

The supply companies and tank builders are not overlooking their opportunities at Wortham, and are massing equipment and labor to be ready to serve their customers. In anticipation of a temporary shortage of oil field supplies, some of the operators are placing orders for pipe and equipment in advance of needs. The news of the excitement taking place at Wortham is bringing a flood of rotary drilling men from distant fields, while the typical oil field "floater" is also putting in his appearance. Sleeping accommodations are so limited at Wortham, that field men are forced to make headquarters at Mexia and other nearby towns, while in the meantime field camps are planned by a number of the larger lease owners.

The Ohio Oil Company has made a location for its No. 12 Bodcau Lumber Company, in the northwest corner of the southwest quarter of section 27-21-10, offsetting the Humble's lease and a quarter of a mile due east from the flowing wells above mentioned. This operation will mark the first well drilled in 27, and illustrates the fact that the Cotton Valley development boom is getting under way. Heretofore, excepting the few bold tests which resulted in the eastern and southwestern extensions to the productive area, only necessary offsets have been drilled.

The Humble's Davis gusher, in section 24-21-10 of the Eastern Extension, ceased flowing last week, and preparations are being made to clean it out. When it went dead it was making 7000 barrels of fluid per day, of which 65 per cent was salt water and b. s. The Alabama Petroleum Company has set six-inch casing and may drill in this week in its No. 3 Pardee, in the same vicinity.

S. S. Raymond and associates are drilling below 2900 feet in their proposed deep test on the Coyle farm, in section 21-21-10, on the western slope of the Cotton Valley structure.

It has been reported that The Texas Company will make a location in section 19-20-10 for a wildcat test to be drilled about six miles southwest from the nearest production, on the Cotton Valley structure.

A decision, in favor of the plaintiffs, was announced last week in the case of Hude and Aarnes against the Conservation Commissioner, Supervisor of the Minerals Division, et al, in which the operators sought permanently to restrain the commissioner from shutting in their two wells drilled in the northwest quarter of section 22-21-10, of the Cotton Valley Field. The history of this case is that Hude and Aarnes drilled two wells on their forty-acre lease above described, both of which made large quantities of gas and a spray of oil. The operators permitted their wells to blow open, doubtless in the hope that they might blow themselves in as oil wells. However, after they had remained open for a considerable length of time, they were closed in and sealed by inspectors of the Minerals Division, who acted under authority of conservation laws and regulations promulgated thereunder designed to prohibit the wastage of natural resources. The point at issue, as generally understood by operators in this state, was whether the well owners were wasting gas in an effort to produce commercial quantities of oil from two gas wells, or simply were committing an unavoidable waste of gas in connection with the operation of two oil wells. The court held that the commission was without authority to close in the two wells in question.

Decision on Elk Hills May Take Three Months

Los Angeles, Calif., Nov. 22.—The celebrated case in Federal court in Los Angeles, where the government was attempting to cancel leases in naval reserve held by the Pan American, Doheny interests, came to a close this week, after arguments had been made by both sides.

Briefs were filed by the defendants and the government allowed 20 days in which to file briefs. It is doubted if a decision will be rendered inside of three months, as the evidence and records introduced run into millions of words and the presiding jurist will need considerable time to make a close study of the entire case.

During the final arguments, attorneys for the government continued to contend fraud in the securing of the leases, especially with reference to the loaning of money to Fall by Doheny. Attorneys for the defense claimed that the government had fallen down woefully in proving its case and that there was nothing to any of the government charges.

Committee Arranging For Mountain Association Meet

Casper, Wyo., Nov. 25.—The committee in charge of arrangements for holding the annual meeting of the Rocky Mountain Oil and Gas Association here December 2 and 3, has been announced by President B. B. Brooks. The committee consists of R. S. Ellison, chairman; M. E. Young, C. B. Richardson, M. O. Danford, A. Baker, D. W. Greenburg, and M. J. Foley.

The committee urges that all who expect to attend the meeting, which will be held at the Elks Home in Casper, should send in their hotel reservations early. This may be done by addressing R. S. Ellison at P. O. Box 1075, Casper.

New Offices in Wichita

Wichita, Kans., Nov. 24.—Roxana Petroleum Corporation of St. Louis, Mid-Continent subsidiary of the Royal Dutch-Shell Interests, will open offices here December 1 in the Bitting building. Roxana now is interested extensively in Kansas properties as well as operating a refinery at Arkansas City.

Other companies to open offices in Wichita recently include the Frost Drilling Company, which is moving here from Peabody, Kansas, and the Hayes Drilling Company, who are taking space in the Orpheum building.

The Watchorn Oil & Gas Company are centering their Kansas producing offices in Arkansas City, having moved there from Peabody just lately. John R. Porter, vice-president and one of the company's executive officers, will be in charge of the Arkansas City offices of the Watchorn Company.

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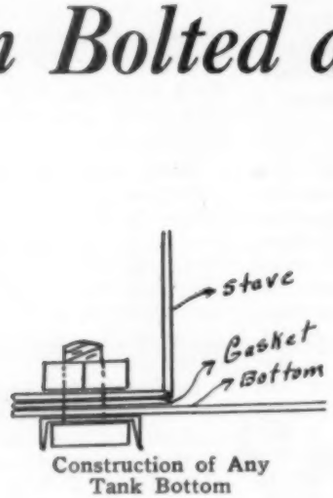
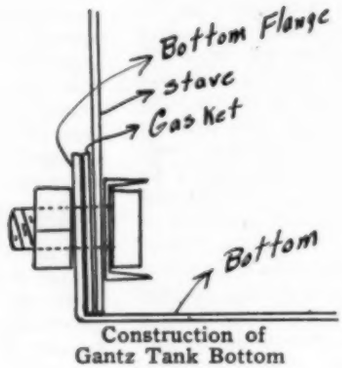


Construction of Any Tank Bottom



Construction of Gantz Tank Bottom

Sketched here are two types of construction of tank bottoms. The Gantz bottom protects the staves against corrosion. Gantz bottoms also form a joint that makes a tank really tight. And the deck is built the same way on Gantz Tanks.

The bolts in a Gantz Tank must be cut off to give way, while in other makes all that is necessary is to strip the threads. Due to the construction, Gantz Tanks are easily and quickly erected and reset.

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Texas

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Company, Well and Location	Initial Production Bbls.	Depth
Clopton & Stone's Rathgeber 1	*	2016
Magnolia Pet. Co. Staley-Beach 41.	10	1170

ELECTRA

Ed Barr et al Fisher 1	*	2000
Gulf Production Co. L. P. Douglas 11-B	7	1960
L. P. Hammond et al Waggoner Bros. 1	*	1967
Hammond et al S. H. McCarty 1	*	1800
Magnolia Pet. Co. R. M. McFarlin-Abernathy 8	*	1952
Perkins & Cullom Burnett Estate 10	100	1589
Ryan Pet. Co. Nance 26	75	1689
Texhoma & Perkins Burnett Estate 1-B	65	1590
Texhoma Oil & Ref. Co. Burnett Estate 3-C	*	1970

K-M-A AND IOWA PARK

Kentucky Oil Corp. J. A. Kemp 3.	*	1339
Sam Kruger et al Allen & Kemp 8	50	1648
Shappell Oil Co. W. B. Sisk 1	*	2506
Stump Oil & Gas Co. Chilson 1	*	1804
Texland Oil & Gas Co. W. H. Chilson 1	*	1842

YOUNG COUNTY

Burns-Maxson et al W. C. Alexander 1	*	1505
Jones et al Geo. B. Taack 1	*	1605
Litchfield-Madden et al R. Campbell 1	75	1048
Harvey et al S. W. C. Hill 1	*	1150

DESDEMONA-GORMAN

Kirk & Brewer J. P. Shugart 5	45	2888

RANGER-EASTLAND

Dixie Co. Brashear 1	65	3251

STEPHENS COUNTY

Ivan Petroleum Co. Martin 2	*	4010
Landreth Prod. Corp. Ward 1	†	2385
Sindorf Bros. et al Sorgee 2	25	1835
Texas Pacific Coal & Oil Co. C. J. Winston 2-B	¶12	2230
Walker-Samuels & Stewart Bank Fee 5	135	3172

NORTH CENTRAL TEXAS

Currie—

Brothers Oil Co. T. W. Bounds 7	*	3275

Wortham—

Boyd Oil Company Boyd 1	150	2990

Richland—

John Hoosier Swink 3	56	3000
Payton & Allison Davis 2	100	2960

Powell—

Garland Kent Barry 1	*	2050
U. S. Texas Oil Corp. Ramsey 4-A.	25	1610

ARCHER COUNTY

Barbee et al R. Campbell 1	*	1505
F. G. Beaudoin et al W. M. Coleman 1	*	2005
Bridwell & Mayfield O. T. Norred 1	*	1313
Carter et al J. H. Wgite 12-E	150	1598
Consolidated & Panhandle Ref. Co. L. C. Davis 5-A	200	1093
W. J. Ragle 6-B	155	1102
W. J. Ragle 2-E	†	820
W. J. Ragle 4-E	250	1090
Fletcher Synd. Cowan-Turbeville 1	*	2012
Fuller-Owens & Wright W. N. Miller 3	15	742
W. J. Green et al M. E. Rogers 1.	*	1600
Grisham-Parks et al C. L. Davis 3.	350	1080
Gulf Prod. Co. A. P. Nichols 1-B	40	1427
P. Siegel 4	90	1580
T. L. Griffin 6	250	1283
Humble Oil & Ref. Co. L. F. Wilson 1, (Blk. 78)	*	1593
L. F. Wilson 1-B	*	1650
Humphries et al J. H. White 10	385	1609
Maer & Staniforth J. S. Bridwell 3	150	1139
Magnolia Pet. Co. W. F. Parrish 6.	50	1596
W. F. Parrish 7	75	1591
Melat & Graham J. T. Richardson 5	75	1363
Murchison-Fain & Marlin Oil Co. H. Harmel 2-B	200	1290
Mutual Oil Co.-Gardner & Wilson H. Harmel 1	250	1274
Petroleum Prod. Co. M. E. Rogers 3	250	1278
M. E. Rogers 4	350	1278
J. S. Bridwell 1	375	1136
Robertson-Ross et al J. H. White 3	100	1596
J. H. White 10	170	1609
Shamrock Oil Co. O. T. Norred 1	*	1332
J. T. Richardson 15-D	140	1324
The Texas Co. B. R. Jeske 2	*	1188
Tucker & Langford R. E. Farmer 1	*	1349

EAST TEXAS

Waskom Gas Field—

Ferguson & Fuller's Hickman 1, E. Pollack Sur., Harrison Co.	¶10	950
Sutherland et al's Lindsey-Bell 1, Joel Lipscomb Sur, Harrison Co.	¶15	950
Waterman Drlg. Co.'s Hickman 1, E. Pollack Sur., Harrison Co.	¶20	960
Total, 3 wells	¶45	

Panola Gas Field—

Jim Askew's Magnolia 2, Jas. Asher sur., Panola County	¶8	1960
Panola Oil & Gas Co.'s Robinson 2, Thos. Anderson sur., Panola Co.	¶8	1930
The Texas Co.'s Brumble 2, Mitchelson Sur., Panola Co.	¶5	2010
Total, 3 wells	¶21	

GULF COAST

Spindletop—

Rycade Oil Corp. Gladys 1	*	3910
Gulf Production Co. Gladys 209	200	860
W. T. Wherry et al Trembly	*	965

Saratoga—

Paggi Bros. Hooks 2, wo.	12	1210

Batson—

The Texas Company Ott 1	*	3105

Goose Creek—

Humble Oil & Ref. Co. Tabb 1, wo.	*	2075
Gulf Production Co. Ashbel Smith 24	50	1600

Sour Lake—

Lake View Oil Co. Hardin County 4 wo.	*	2270
The Sun Company B. & E. 60	15	1020

Hull—

Mecom Oil Company Mecom 6	3000	4220
Republic Production Co. Dolbear 94	800	2475
Gulf Production Co. Morris-Phillips 2, wo.	200	1665

Orange—

Brownie-Babbette Oil Co. Brown 3, wo.	*	4145
Humble Oil & Ref. Co. Chesson 8-B, wo.	1100	3455
Supreme Oil Co. Jackson 3, wo.	500	3465

Louisiana

Cotton Valley Field—

Fortuna Oil Co.'s S. J. Merritt 3, 14-21-10	65	2530

Elm Grove District—

Palmer Corp.'s Hodges B-3, 25-16-12	¶30	1910

Monroe Gas Field—

Chester Carbon Co.'s Mitchell 1, 36-19-4, Ouachita Parish	¶5	2225
Oil Fields Exploration Co.s' Betz 1, 41-21-5, Morehouse Parish	¶5	2360
The Texas Co.'s LaDel 3, 11-19-4, Ouachita Parish	¶25	2210
LaDell et al's Fee 30, 10-19-5, Ouachita Parish	¶17	2230
Total, 4 wells	¶52	

Arkansas

Smackover Field Ouachita County—

Arkansas-Invincible O. Corp.'s Myar 3, 30-15-16	15	2330
El Dorado Union Oil Co.'s Hughes 7, 25-15-16	100	2262
Findley et al's Keller 1, 23-15-17	*	2108
Galloway Oil Interests' Hughes 5, 28-15-16	75	2276
Hunt et al's Greene B-2, 23-15-17	525	2314
Reynolds et al's Brierton 3, 25-15-17	20	2325

Smackover Field, Union County—

Gulf Ref. Co.'s Werner S. M. Co. 22, 5-16-16	50	2260
Plateau Oil Co.'s Tatum 1, 7-16-15.	*	2273
Pure Oil Co.'s Craig 10, 15-16-15	50	2025
Wilson 2, 20-16-15	40	2123
Total, 10 wells	875	

Wyoming-Montana

Wyoming Associated No. 27A, SE¼ 14-40-79	275	1684

California

Rosecrans—

E. J. Miley's Athens Com. 1	1320	4947
Barnsdall Oil Co.'s O'Dea 1 (wo).	700	4727

Torrance—

Pan American's Rhodes 1 (wo)	100	3800
Standard's Marble fee 23	80	3795
Marble 2-1	150	3835
Petroleum Midway's Carlson 1	85	3825
C. C. M. Oil Co.'s De Amo 26	100	3660
McKeon Dr. Co.'s Torrance 2	150	3792
Petroleum Securities' Kleinmeyer A8	75	3810
Sentinel Oil Co.'s Joughin 15	175	3822

Huntington Beach—

Standard's Bolsa 16	600	4594
Bolsa 17	1500	4632
Petroleum Co.'s Wilson 3	750	3665

Santa Fe Springs—

Union's Alexander 9	¶1	2100
Bell 23 (wo)	100	4660

Long Beach—

Courtney Pet. Co.'s Jew Boy 1 (wo)	300	3633
Mutual Oil Assn.'s No. 3	500	3858

Elk Hills—

Belridge Oil Co.'s No. 6, sec. 34-30-24	2000	2980

Sunset—

General Pet. Corp.'s No. 161, sec. 34	75	913

Oklahoma

Burbank Field—

Phillips Pet. Co.'s Mott 7, C SE SE SE 11-27-5	300	3051
Mott 8, C E L NE SE SE 11-27-5	4000	2993
Mott 6, C NE SW SE 11-27-5	600	2996
8, C E L NE SE NE 18-27-5	250	2978
Carter Oil Co.'s No. 10, NWc 13-27-5	250	3033

Carter County—

Levant Oil Co.'s Brewer 1, C NW SW SW 27-1s-3w	¶	3210
Humble Oil & Ref. Co. Gregg 1, C NW NE SE 28-1s-3w	700	3336
Schermerhorn's Palmer 6, C SE SW SW 32-2s-2w	120	2423
Twin State Oil Co.'s Williams 4, C SW NE SW 23-2s-3w	150	2923
Amerada Oil Corp.'s Clay 1, NWc SW NE 28-5s-1w	54	1038
Magnolia Pet. Corp.'s Cruce 19, C N½ NE NE 16-4s-2w	187	2525
Twin State Oil Co.'s Williams 2, C NE NE SW 23-2s-3w	20	2400

Canadian County—

Pope Powell et al's No. 1, C NW SE 22-11-5w	*	656

Creek County—

Phillips Pet. Co.'s McIntosh 1, SWc NE 24-14-9	920	2930
Cumberlnd Pet. Co.'s Friday 1, SWc SE SW 22-15-10	125	2731
Knox et al's Coweta Mission 2, 17-17-16	*	1036
Pulaski Oil Co.'s Newton 1, SEc NE SE 2-16-11	*	2324

Company, Well and Location	Initial Production Bbls.	Depth
Sewell Pet. Co.'s Childers 2, C W L NE NE 30-17-16	*	2324
Madden & Madden's Bishop 1, SWc 13-17-8	90	2294
Aztec Oil Co.'s Johnson 2, SEc 14-17-8	210	2321
Sartain Bros.' Antussee 3, SWc NW 32-17-8	¶	2835
Custer County—		
Magnolia Pet. Co.'s Cutfinger 1, NWc SE 17-13-14w	*	3688
Kay County—		
Wentz Oil Corp.'s McKee 46, C E L NE SE SW 34-25-1w	3495	4261
Gladys Belle et al's Siler, SWc SE NE 34-25-1w	1025	4024
Kingfisher County—		
Reno Oil Co.'s No. 1, SEc SW NW 35-19-6w	*	3740
Muskogee County—		
Wilcox O. & G. Co.'s Miles 10, SEc NE NW 2-15-20	1100	3118
Okmulgee County—		
Bud Wilmont's Berryhill 3, C NE SE 17-14-13	*	1803
Osage County—		
Marland Ref. Co.'s No. 103, C N½ NE SE 20-23-8	20	2342
H. G. Guinnup's No. 1, SWc NE 6-20-10	*	2720
McEvoy & Hamilton's Lewis 1, C NW SW NE 36-21-12	*	1921
Pawnee County—		
Galvez Oil Co.'s Van Eman 5, C E L SE NE 17-20-7	280	2640
Ed. Reese et al's No. 4, Lot 12, Blk. 3, NWc NE NE 17-20-7	100	2702
Echo Oil Co.'s Burrell 3, NEc SW 7-20-7	25	1306
Payne County—		
Dr. A. H. Corker's White 1, NEc SW 3-18-6	*	1501
Pottawatomie County—		
Doy O. & G. Co.'s Richardson 1, C E½ NW NE 9-5-3	*	4008
Seminole County—		
Amerada Oil Corp.'s Starr 1, C SE SW NW 8-10-8	100	3502
Carter Oil Co.'s Brown 3, C NW NE SW 10-10-8	181	3195
Hill 3, C NW NW NE 9-10-8	1600	3492
Starr 1, SWc NE SW 9-10-8	110	3483
Starr 4, C SE SE NW 9-10-8	¶	3460
Roxana Pet. Corp.'s Brown 1, C SW SW SW 10-10-8	450	3520
Waite Phillips Co.'s Proctor 2, C SE NE SW 16-10-8	140	3523
Shaffer Oil & Ref. Co.'s Yarhola 1, C SE NE NW 22-10-8	75	3500
Sinclair-TNC's Bunner 8, C NW SW SW 9-10-8	1320	3480
McMann Oil Co.'s Baker 4, C NW NW NW 16-10-8	2400	3501
Tulsa County—		
Frates Oil Co.'s McHenry 2, C W L SW SW NE 1-17-14	150	1280
Shaffer O. & R. Co.'s Partridge 2, C S L NW SW 5-19-12	25	2030
C. E. Wake et al's Drew 4, C E L SE SE NW 1-17-14	150	1292
Superior & Noble's Bertholf 1, C NW NW 31-17-13	*	2338
Sac-Fox Oil Co.'s Haukey 3, C E L SE NW SW 33-18-14	*	1542
Broken Arrow Gas Co.'s A. Atkins 1, C W½ NE SW 4-18-14	*	1350
Wagoner County—		
Hartman & Perry's Mission 2, C E L SE SE NE 18-17-16	¶	1025
Moss et al's Taylor 1, NEc NW NE 24-18-15	*	986
McEvoy et al's McKellop 1, SWc 21-18-15	*	1240

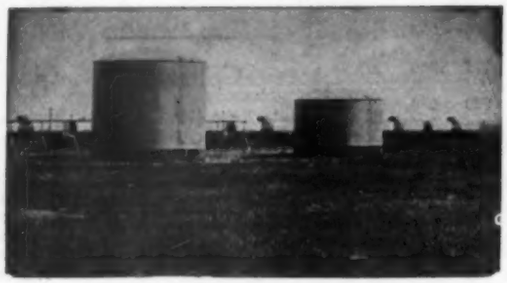
Kansas

Company, Well and Location	Initial Production Bbls.	Depth
Butler County—		
Peoples O. & G. Co.'s Skear 1, NWc NE SE 25-27-4	*	2800
Mid-Kansas O. & G. Co.'s Slaubaugh 1, NWc SE SW 10-28-6	*	2779
Chase County—		
Phillips Pet. Co.'s Bennington 1, SWc NW SW 30-22-1	*	2505
Cowley County—		
Empire Co.'s Eastman 5, NWc NE SE 6-31-6	85	2882
Elk County—		
Sinclair O. & G. Co.'s Porter 2, C E L NE SE 11-29-2	*	2115
Greenwood County—		
Smith & McGuinnes' Wright 1, SWc NW 32-24-13	*	1645
Milligan et al's Berne 2, C NW SW SE 22-22-11	120	1978
Ramsey et al's Myers, C E L NE SW SW 27-28-5	*	....
Pierce et al's Jackson 2, C E L NE NE 25-25-8	10	1985
Dinge et al's Houge 1, NEc SW 1-25-9	*	2260
Jackson et al's Whipple 1, SEc SW NE 14-25-10	*	1790
Osborne County—		
Delhi Oil Co.'s Dorman 1, SWc 20-10-11w	*	3470
Reno County—		
Jennings Pell et al's Mohr 1, SEc SW SW 2-25-6w	*	3522
Childs, Hipple et al's Sallee 1, NWc SE 3-22-6w	*	3815
Rice County—		
Emerson-Carey's Bush 1, NEc NW NW	*	3565

Eastern States

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Monroe County—		
T. L. Covert & Co. G. B. Cox 4	3	....
Dillon O. & G. Co. E. Dillon 3	3	....
George E. Wickerbach Esau Scott 2	2	....
Devore O. & G. Co. C. W. Camden 1	*	....



When Choosing Tankage

Look for the economy of design, the expert workmanship, the serviceable construction and the highest grade materials. These points insure you of "Quality" and mean a tank that will prove both serviceable and of long life.

"United" tanks combine all of the above qualifications. This accounts for their universal satisfaction and extreme economy.

United Iron Works, Inc.

TULSA KANSAS CITY, MO. DALLAS

"UNITED" IRON WORKS INC. FOR SERVICE

TRADE MARK KEYSTONE REGISTERED U. S. PATENT OFFICE

Improved Deep Well Rig

EMBODIES THESE VALUABLE FEATURES

Friction Tool Hoist—Casing Reel—Indestructible Steel Sills—Keystone Patented Spudding Device—V-Friction Brakes, Patented Babbitted Bearings throughout.

This machine is new—modern, complete, the product of an old and established concern. It is backed by 35 years of experience in the manufacture of portable drilling rigs and a world-wide reputation.

We are building three sizes: No. 27, for 2500 feet; No. 32, for 3000 feet; and No. 35, for 3500 feet depth.

Machines can be seen in various parts of the Kansas, Oklahoma and Pennsylvania fields. Let us wire you where to find one.

BULLETIN 302 and prices on request.

KEYSTONE DRILLER CO.

BEAVER FALLS, PA.

Branch Office and Plant

Joplin, Mo.

The Right Oil

In The Right Place

Keeping down the friction load and reducing friction wear to a minimum is the problem of every operator of machinery. And there is but one solution of the problem—using the right oil in the right place.

The nature of the oil needed for the proper lubrication of bearings differs as widely as bearings do —in their type, their operating speeds and temperatures, the weight they carry at normal and peak loads, the frequency of their starting and stopping, and the method by which the oil is applied to the bearing surfaces.

All of these points have been carefully studied by our engineers, and Humble Zero Cold Test Oils have been scientifically prepared to meet certain operating conditions. Each Humble Oil is just right for the place where we recommend its use—you may depend on that—whether it be in your plant or in your automobile.

HUMBLE OIL & REFINING CO. HUMBLE OILS HOUSTON, TEXAS

The Humble Oil and Refining Company is a large user of both heavy and light equipment of various kinds, and our lubrication engineers have made exhaustive tests on our own equipment, the results of which are offered to all users of lubricating oils.

And if you are having trouble with the lubrication of any particular bearing in your plant, our engineers will be glad to study your problem and furnish you with an oil that will solve it. Just ask us.

Humble Oil & Refining Co.

HOUSTON, TEXAS

Producers ~ Pipe Lines ~ Refiners ~ Marketers

Company, Well and Location	Initial Production Bbls.	Depth
Washington County—		
Frank Goddard & Co. Ruth Uppole 1	2	....
Carter Oil Co. D. B. Mulinex 16..	¶½	....
Ross Bros. H. G. Wagoner 3	¶1	1233
Pittsburgh Gas Co. H. H. Smith 1..	¶1	1267
Noble County—		
W. O. Jaines W. N. Sherbourne 1..	*	700
John Kemp & Co. J. McWilliams 4, 5	*	....
Columbiana County—		
Kirk-Dunn Oil Co. Yaggi Bros. 12..	2	....
Guernsey County—		
Keith Bros. Keith 1 .....¶1½		....
CENTRAL OHIO		
Licking County—		
Ohio Fuel Gas Co. W. E. Rector 1..	5	....
F. M. Rugg & Co. Anna Stewart 1	2	....
Carter Oil Co. James Cartral 1....	60	....
Heisey Gas Co. L. Weakley 1	35	....
Bishop Patton Martha J. Gutridge 2	4	....
Wehrle Interests O. C. McClelland 2	¶½	....
Smith Bros. 2	4	....
Frank Darnes 7	3	....
Fairfield County—		
Sturm & Co. H. E. Morrow 1.....	65	....
Ruff-Stewart O. & G. Assn. Graffis 1	¶½	....
Packard O. & G. Co. Otto Combs 1	¶½	....
Athens County—		
Southern Oil Co. D. L. Murphy 1..	10	....
Gross & Fribault N. W. Padford 2	10	....
Holmes County—		
Central Ohio Gas Co. Oscar Korns 2	10	....
Logan Gas Co. Scott Mast 1	¶1	....
Perry County—		
Arkansas Fuel Oil Co. L. V. Dugan 9	3	....
O'Connor & Keller Sunday Creek Coal Co. 18	5	....
Knox County—		
F. M. Snyder & Co. John McKee 18	3	....
John McKee 19	3	....
NORTHWESTERN OHIO		
Wood County—		
Lentz, Gregg & Co. Schulte 6.....	30	1380
Brennan Oil Co. M. L. Donahay 24	15	1350
J. E. Matzinger Bryant-Brockover 6	15	1252
Fred H. Speck, Speck 4	12	1263
Auglaize County—		
Neely-Clover Oil Co. James Rapp 1	15	1300
W. B. Jack A. E. Long 1	40	1298
Allen County—		
W. W. Rook Youngpeter 2	25	1331
C. A. Peavey & Co. Elias Lewis 11	20	1340
Ottawa County—		
River Oil Co. H. Bushman 1	20	1305
Mercer County—		
Pennsylvania Oil Co. H. Eckner 2..	10	1190
Hardin County—		
Schmidt & Co. Sarah Keller 1....	10	1423
Hancock County—		
Urchalitz Oil Co. B. Twing 1.....	7	1386
INDIANA		
Pike County—		
A. E. Bemant Eldon Cott 1.....	20	998
ILLINOIS		
Clark County—		
Ohio Oil Co. Z. E. Brandt 16.....	55	609

Eclipse Deepwell Pulling Machine

Weight

Safety Standard up to 2000 ft. 2" Tubing Weight.....3075

Safety Special up to 3000 ft. 2" Tubing Weight.....3385

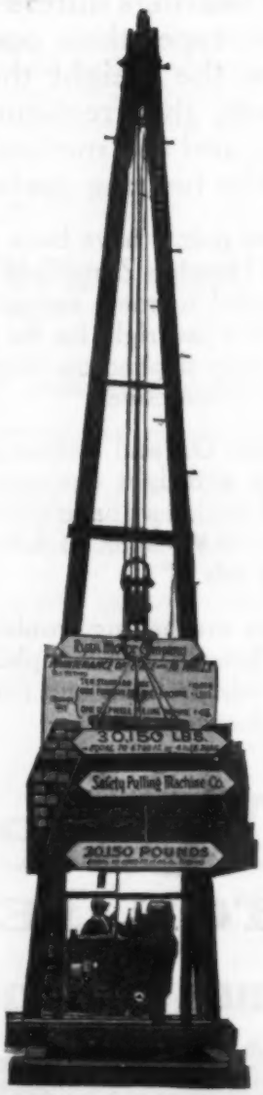
Weight

Eclipse Std. up to 2000 ft 2" Tubing Weight.....2785

Eclipse Special up to 3000 ft. 2" Tubing Weight.....3000

Eclipse Deepwell up to 8000 ft. 2" Tubing Wt. 3645

Wreckers also made to order, approximate weight 5000 lbs. One of our customers stated that he has pulled a weight equal to 100 tons with one of these machines.



Specifications Deep Well

Mast 8x10x36 ft., Douglass Fir A-Style, Two Wheel Truck, two 16" Bronze bearing crown pulleys, 2½ Steel Pin mounted in malleable boxings. Large supporting plate 16" dia. between crown pulleys, eliminating any chance of bending pin.

Reel or Drum: 32 lb. 8¾ casing filled with concrete for winding drum, differentials banded with 3/16 band iron, brake surface 9"x40", choke brake style same as star drilling machine.

The whole reel assembly is mounted on 2¾ square steel shaft extending clear through reel, secured by three heavy castings.

For sale by all Supply Companies

Manufactured by

SAFETY PULLING MACHINE COMPANY

INDEPENDENCE, KANSAS

Eastern States

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
Bradford Field—		
South Penn Oil Co. Bingham 430, tract 70	3	....
Bingham 439, tract 1	5	....
Bingham 405, tract 1	4	....
Melvin 3	2	....
Melvin 4	2	....
Melvin 5	*	....
Hazlewood Oil Co. Bingham 1.....	3	....
Lafferty 1	7	....
W. C. Kennedy Co. Kennedy 38....	7	....
Franchot 10	3	....
Phoenix Oil Co. Clark-Kennedy 153..	3	....
C. Moore Moore 1	3	....
J. L. Yerdon Bingham 1	3	....
Associated Producers Co. Bingham 288	4	....
Bingham 291	3	....
Bingham 302	4	....
Forest Oil Co. Noble 1	3	....
D. W. Daly Bingham 360, tract 55..	4	....
C. G. Grow Bingham 420, tract 26..	3	....
McCollum & Howard Vincent 84	3	....
J. A. Walters Interests Walters 38..	3	....
Kennedy Co. Bingham 136, tract 50..	2	....
Bingham 136, tract 51	4	....
Charley McGavern, McGavern 2	*	....
Grace Ramsbottom, Ramsbottom 14	*	....
A. W. Palmer, Palmer 1	3	....
T. P. Thompson & Son Borden 1 ..	7	....
J. F. Magee Raver 1	3	....
Venango County—		
S. Y. Ramage Stiles 74, tract 71....	2	....
Stiles 74, tract 72	2	....
Kelley, Seldon & Co. Peebles 5.....	3	....
J. T. Liken Miller 1	2	....
Midland Oil Corp. Stevenson 35....	3	....
Titus, McKim & Co. James 4	2	....
C. B. Reeves Eakin 14	2	....
Blair & Co. Hancock 37.....	2	....
Hancock 38	2	....
J. B. Smithman, Smithman 81	2	....
Butler County—		
McCarrier & Co. Barnhart 3	4	....
Garwick, George & Co. Rice 1.....	3	....
Pyle & Co. Pyle 2.....	7	....
Berry & Robinson, Robinson 1.....	3	....
Dodds & Co. Kohler Heirs 1.....	¶1	....
Saxonbury Light & Heat Co. Wylie Heirs 1	¶½	....
Elliott & Co. Niblock 2	¶1	....

Company, Well and Location	Initial Production Bbls.	Depth
S. Conners, Conners 1	*	....
McCandless, Baird & Co. Campbell 3	*	....
Greene County—		
Manufacturers Light & Heat Co. S. Gardner 1	¶2	....
Ike Orondoff 1	*	....
Stephen Gardner 1	¶2	....
Kennedy, Brock & Co. Spencer-Kennedy 1	*	....
Charles Fox Gas Co. W. G. Headley 1	¶2	....
John Blair W. J. Bryan 6	¶1½	....
Center-Middle Field—		
Kane Oil Co. Lot 385, tract 30	2	....
F. J. Moser Lot 3767, tract 23	2	....
Gesen & Co. McClafferty 1	*	....
Clarion County—		
Alum Rock Gas Co. Best 1	¶1	....
Kapp 1	2	....
L. J. Shaw Hockman 9	2	....
Westmorland County—		
Peoples Natural Gas Co. Seger Bros.	*	5985
WEST VIRGINIA		
Doddridge County—		
Hope Nat. Gas Co. W. F. Smith 1	¶2¼	....
W. F. Smith 2	¶2	....
Carter Oil Co. Rebecca Williams 1	4	....
Ash Heirs 1	10	....
Roane County—		
United Fuel Gas Co. C. E. Monroe 1	¶2½	....
J. P. Young 1	¶2	....
Morley O. & G. Co. Newburn School lot 1	¶1	....
Tyler County—		
Stephens Oil Co. R. McCullough 2	5	....
Morgan Bros. & Co. Grant Thorne 2	¶2	....
Gilmer County—		
Hope Natural Gas Co. Albert Vanhorn 1	¶11	....
Hays & Roberts E. F. Raybuck 1	¶2½	....
Lincoln County—		
L. R. Sweetland, Sweetland 1	¶2	....
Wolfe & Black, R. L. Black 1	¶2	....
Ritchie County—		
Hope Nat. Gas Co. D. W. Campbell 1	¶2	....
Lemuel Wilson 1	*	....
Wood County—		
Bowser & Ekas U. S. Dye 1	¶1½	....
Rexroad & Rogers Wm. Vincent 6	*	....
Calhoun County—		
Chemical Oil Co. A. O. Jackson 1	2	....
Harrison County—		
Northwestern O. & G. Co. Isadoe stout 1	¶5	2400
Wetzel County—		
South Penn Oil Co. Charles Batson 4	¶1	....
KENTUCKY		
Lawrence-Johnson Counties—		
Union Gas & Oil Co. W. D. Lester 3	100	793
R. N. Sparks No. 1, tract 1	100	790
J. J. Gambill 34	40	807
Wm. Lester 7	30	810
Laura Skaggs 7	30	812
Pluto Oil Co. Robert Fyffe 4	2	786
Barren County—		
George & Rice Jackman 1	12	479
T. L. Gorby Cassiday 1	3	....
Baird Oil Co. Jones 1	2	485
W. S. Raydure Matthews 1	*	492
J. Porter & Co. Chitwood 2	*	485
Allen County—		
Bastrus, Johnson & Co. W. Carver 5	10	302
Ziegler Oil Co. Clay Harmon 2	*	495
Free Lance Oil Co. Hinton 6	4	....
Ming & Co. Tinsley 1	*	493
Parson & Bastrus Wheat 4	*	340
Warren County—		
H. V. Taylor Smith 10	30	462
Roy Hogan L. C. Dillard 2	17	463
Lowman Bros., Smith Bros. 1	*	....
Lee County—		
Black Gum Oil Co. Gourley-Redman & Co. 6	30	....
Petroleum Exploration Co. P. Treadway 2	10	....
Superior Oil Corp. J. D. Smythe 23	2	....
Johnson-Magoffin Counties—		
New Domain O. & G. Co. W. P. Adams 8	10	1065
Clyde Oil Co. J. T. Powers 2	10	840
Diamond Oil Co. Bailey Heirs 2	5	865
Wayne County—		
G. D. Hooks & Co. M. F. Hicks 1	*	....
Cooper & Miller G. Roberts 1	*	....
Meredith & Co. J. Bobbitt 1	3	....
Floyd County—		
New Domain O. & G. Co. John Martin 1	¶5½	1207
Wm. Martin 1	¶3	1204
Eastern Carbon Black Co. C. E. Allen 1	¶2½	....
Owensboro District—		
Palmer Oil Co. Gunther 1	*	805
Kentucky Oil Co. Skinner 1	*	....
Cumberland County—		
Grant, Curtis & Co. Gilbert 1	*	470
Kanawha Oil Co. Mrs. Coop 1	*	800
Simpson County—		
W. H. Martin Smith 1	*	540
Adair County—		
Bartow-Florida Interests Smith 2	*	....
Laurel County—		
Common O. & G. Co. Bernstadt 1	*	....

You Can Profit

by taking advantage of the Pipe and Casing listed below. Look this list over —

3,500	feet	4½″	15-lb.	used	casing
6,000	"	6⅝″	24 "	"	"
10,000	"	8¼″	32 "	"	"
6,000	"	10″	40 "	"	"
4,000	"	12½″	50 "	"	"
1,000	"	15½″	70 "	"	"
250	"	20″	90 "	"	"
20,000	"	4″	used	line	pipe
20,000	"	6″	"	"	"
30,000	"	8″	"	"	"

We own and can make immediate shipment of this pipe from our Texas yards.

Keystone Pipe & Supply Company

Eastern Headquarters: Butler, Penna.

Western Headquarters: Fort Worth, Texas, 315 W. T. Waggoner Bldg.

Branch Stores

Wichita Falls, Holliday, Graham, Breckenridge, Texas

No More "Blow-Outs"!

This Hosmer Blow-Out Preventer takes all the danger out of gas pressures in well drilling. Gas Collecting in the space between outer casing and drill pipe is under control at all times and can be released through proper openings provided in the Blow-Out Preventer when desired.

A heavily constructed, reliable, safe and cheap insurance against "gas trouble." It has saved many wells.

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Save Your Rods and Tubing

Use the

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Combined Rod Coupling and Protector

It Will

Stop That Rod and Tubing Wear

Construction:

Special Bronze Bearing Metal cast around the rod coupling, making a one piece unbreakable bearing, something that is absolutely safe to run in the hole.

This Bearing not only saves the rods and tubing but eliminates to a great extent the pin breakage.

Giving wonderful service in the deep pumping wells of California, being used by

THE STANDARD OIL CO.
ASSOCIATED OIL CO.
UNION OIL CO. OF CALIFORNIA.
MARINE OIL CORPORATION.
GEO. F. GETTY
and many others.

PRICES:

Size Tubing	Box	Prices
2 in.	⅞	$2.00
2½ in.	⅞, 1, 1⅛	$2.25
3 in.	1, 1⅛	$2.75

When ordering state make and size of Rods.

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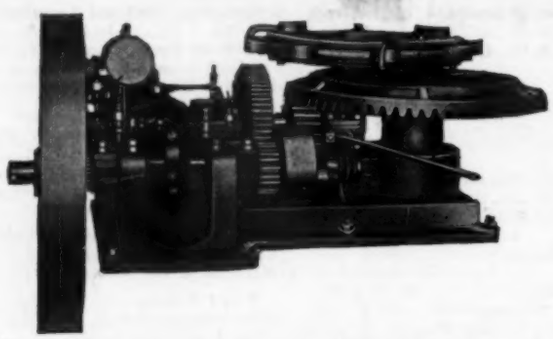
Los Angeles California



"THE SPENCE"

A combined gas engine and single eccentric pumping power, with a 10½-H.P. Gas engine, positive governor, gravity feed lubrication and Wico ignition for gas or gasoline equipment. In refinement of construction and efficiency and simplicity of operation this is the best power of its kind on the market. Will satisfactorily operate four two-thousand-foot wells. Price, $650.00.

We also manufacture the Reliable Combined Engine and Power, similarly constructed and fully equipped for gas or gasoline with Wico Igniter of which over one thousand are in successful operation. Will pull a load equal to four twelve-hundred-foot wells. For all practical purposes as satisfactory and efficient as "The Spence" Power. Price, $450.00.

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EVERYTHING

FOR THE OIL WELL

Operators in the oil fields in this territory have found that the many facilities we maintain assure them at all times

A DEPENDABLE SOURCE OF SUPPLY

Peden supplies have had a large part in the development of the oil fields of Texas. With our years of experience in meeting the requirements of these fields we are in a position to serve best. Send us your orders or write today for prices and information.

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The Largest Supply House in the Southwest

PEDEN IRON & STEEL CO.

HOUSTON SAN ANTONIO
FT. WORTH SHREVEPORT

Permits Granted and Locations for New Wells

(California—Kansas—Oklahoma—Texas—Arkansas—Louisiana)

TEXAS

Archer County—Harris & La Neve's P. A. Martin 1, W. H. Keen sur, 150 ft to S and W lines. Finley Scruggs' J. E. M. 1, 1823 TE&L sur, 450 ft to N and 150 ft to W line. Electra Gulf Oil Co.'s W. L. Andrews No. 1, T. P. Glass sur, 150 ft to N and E lines. H. C. Donohoo's J. F. Ward 1, J. Tomlinson sur, 160 ft to E and 821 ft to S line. Ray & Massie's E. A. Hausler 5, Thos. McCoy sur, 300 ft E No. 1. Woodburn Oil Corp.'s L. F. Wilson 15, Sec 26, Amer Trib sur, 150 ft to S and E lines. Fisher & Gilliland's J. F. Rogers 1, 2407 TE&L sur, 150 ft to S and E lines. M. P. Haskell's H. A. Maldrum 1, G. W. Burnett sur, 150 ft to N and E lines. Gallagher & Lawson et al's T. M. Goodman 1, T. Tyler sur, 150 ft to N and 382 ft to E line. Gulf Production Co.'s A. P. Nichols 6, sec 37, Amer Trib sur, 300 ft W No. 5; J. F. Rogers 1, 2401 TE&L sur, 150 ft to N and E lines; E. S. Monahan No. 1, 1599 TE&L, 150 ft to center of E line. Roy I. Carter's J. H. White No. 15-E, blk 34, Amer Trib sur, 150 ft to S and E lines; J. H. White No. 3-C, blk 34, Amer Trib sur, 345 ft S No. 2-C. Davis Farm Oil Co.'s C. L. Davis 4, W. White sur, 330 ft N No. 3. Cochran, Melville & McElrath's Wilson & Anderson 1, 2479 TE&L sur, 150 ft to N and W lines. Texhoma Oil & Ref. Co.'s A. Hausler 8, Thos. McCoy sur, 308 ft N No. 6; A. Hausler 7, Thos. McCoy sur, 339 ft S No. 4. Dow-Baker Co.'s C. A. Mangold 1, C. A. Mangold sur, 150 ft to N and 450 ft to E line. E. S. Carey's F. W. Pollei 3, Thos. McCoy sur, 316 ft E No. 1; F. W. Pollei 4, Thos. McCoy sur, 300 ft N No. 2. Humble Oil & Ref. Co.'s Oil Inv. Co. 1, blk 125, Club ranch sur, 150 ft to N and W lines; J. A. Woods 1, 2406 TE&L sur, 150 ft to S and W lines; W. J. Ragle 2, R. D. Newman sur, 389 ft N No. 1. Barkley & Meadows' L. F. Wilson 5, sec 88, Amer Trib sur, 750 ft to N and W lines. Jeffers & Newby's W. L. Andrews 1, W. Spavin sur, 150 ft to W and 450 ft to S line. E. S. Carey's F. W. Pollei 2, Thos. McCoy sur, 150 ft to N and E lines. Duke & McKee's C. Cowan 1, blk 5, Jefferson C. S. L. sur, 150 ft to S and W lines. C. A. Everts et al's J. B. Miller 2, blk 19, Amer Trib sur, 450 ft to N and 150 ft to W line. P. F. Gwynn's J. A. Wood 2, 2406 TE&L sur, 314 ft W No. 1. R. R. Robertson's J. H. White 13, blk 35, Amer Trib sur, 300 ft S No. 12. Panhandle Ref. Co.'s C. L. Davis 4-A, BBB&C Ry sur, 425 ft E No. 5; No. 5-A, BBB&C Ry sur, 150 ft to S and E lines; W. J. Ragle 2-E, J. Hopkins 300 ft E No. 1; W. J. Ragle 3-E, J. Hopkins sur, 150 ft to N and 164 ft to E line; W. J. Ragle 4-E, J. Hopkins sur, 150 ft to N and W lines; W. J. Ragle 6-B, R. D. Newman sur, 391 ft N No. 5; A. Beardon 5, J. Hopkins sur, 425 ft W No. 2.

Brown County—Moore & Wilson's A. Williams 1, 157 ET Ry sur, 160 ft to N and 150 ft to E line. Ernst, Davis & Swartz's J. W. Newton 2, Wm. Miller sur, 150 ft to N and W lines. M. E. Wakefield's W. P. Ellsberry 1, S. Jones sur, 500 ft to E and 150 ft to S line.

Bexar County—Gas Ridge & Dev. Co.'s Hamilton Land & Dev. Co. 15, sur 4 and 86, 1000 ft S No. 14.

Concho County—Dome Prod. Co.'s C. M. Hartgrove 2-S, 92 H&GN Ry sur, center SW¼ of NW¼.

Clay County—Shelton Oil Co.'s P. H. Boddy 1, HT&B Ry sur, 150 ft to N and E lines. Gulf Production Co.'s C. M. Worsham 5, sec 3, T&NO Ry sur, 1480 ft E No. 3. M. J. Sullivan's Scott, Ramsdell & Lary 2, GC&SF Ry sur No. 2, 50 ft N No. 1.

Callahan County—R. C. McCarter's W. T. Crosby 1, sec 8, Bayland Asy sur, 150 ft to E and 180 ft to S line.

Coleman County—D. R. Bailey's Kelly-Grady 1, Wharton C. S. L. sur, 2197 ft to E and 300 ft to S line.

Eastland County—Dyar Bros.' J. Norton 1, T&NO Ry sur, 100 ft to W and 100 ft to N line.

Freestone County—Dearing & Sons' R. G. Bounds 1, Wm. Richie sur, 800 ft to W and 400 ft to N line. Kirby Pet. Co.'s S. T. Bounds 1, R. B. Longbotham sur, 150 ft to N and E lines.

Galveston County—Sun Oil Co.'s Broussard & O. M. Dunman 2, M. Dunman sur, 150 ft to W line.

Harrison County—W. T. Earnest's M. G. Armstrong No. 1, P. Teal sur, SW cor H. C. Morris' Mrs. C. B. Hickman 1, E. Pollock sur, 200 ft to W and 591 ft to S line.

Hardin County—Ada Belle Oil Co.'s Texas 77, John McKnight sur, 51 ft to W and 45 ft to S line; Texas 78, F. H. Green sur, 47 ft to W and 42 ft to S line; Texas 79, F. H. Green sur, 47 ft to W and 37 ft to S line; Wm. Weiss 80, C. Choat sur, 205 ft to S and 47 ft to E line; Wm. Weiss 81, C. Choat sur, 57 ft to S and E lines. Thibedeaux & Cavitt's W. H. Cavitt 2, H. G. King sur, 125 ft to E and 27 ft to S line. Weldon Oil Co.'s Texas 2, blk 6, Hopkins sur, no lcn.

Harris County—Sun Oil Co.'s E. L. Dennis Estate 26, R. Dunman sur, SW No. 21. Gulf Prod. Co.'s Stateland 8, Wm. Scott sur, 237 ft N No. 39.

Jim Hogg County—Plateau Oil Co.'s A. Martinez 1, 256 TC Ry sur, NE cor blk 7.

Liberty County—Texas Co.'s Fee 1, L. Guidry sur, 2375 ft to N and 772 ft to E line. Gulf Production Co.'s E. M. Scarbrough 14, sec 28, I&GN Ry sur, 55 ft to E and 184 ft to S line.

Montgomery County—Natural Ref. Co. of Indiana's H. W. McMaster 1, P. Whitaker sur, 1300 ft to W and 3000 ft to S line.

Mitchell County—John Kegans' W. C. Brown 2, sec 37, T&P Ry sur, 500 ft NE No. 1.

Navarro County—M. T. Treadwell's J. G. Bell 1, Wm. Allen sur, NE cor. J. C. & Lon Moore's E. R. Quinby 1, Q. N. Anderson sur, 770 ft to E and 150 ft to S line. N. L. Amster's Harvard 7, Matthews sur, 340 ft W No. 8; Harvard 8, Matthews sur, 150 ft to S and E lines. Pure Oil Co.'s J. R. English 4, M. Boren sur, no lcn. Atlantic Oil Pord. Co.'s B. F. Irvine 18, J. Taylor sur, 155 ft S No. 5.

Reagan County—Brandon & McCamey's State 1, sec 27, University Lands sur, 330 ft to N and W lines. P. L. Hoffman's University 1, sec 23, University Lands sur, 200 ft to N and E lines.

Shackelford County—Gilliam-Logan Oil Co.'s Heindreich 1, sec 4, Insane Asy sur, 150 ft to S and E lines. John S. Dennis' A. J. Thomas 3, sec 58, University Lands sur, 300 ft N No. 1. J. T. Wilcox's J. W. Bankston 1, sec 106, University Lands sur, 1320 ft to N and 525 ft to E line. G. L. Lyda's Mrs. A. M. Leech 1, sec 40, Insane Asy sur, 150 ft to N and W lines. Williams & Johnson's E. L. Anderson 1, sec 65, Insane Asy sur, 150 ft to S and E lines. Chas. Steele's W. H. Pritchard 4, blk 21, University Lands sur, SE cor. Hoffman & Fagan's E. Myers 1, sec 59, ET Ry sur, 2480 ft to S and E lines.

Stephens County—Adamson & Fouts' W. P. Bradford 2, sec 66, T&P Ry sur, 450 ft W No. 1. Price, Russell & Co.'s M. Bruce 4, sec 50 T&P Ry sur, 600 ft W No. 2.

Throckmorton County—Texas Co.'s A. L. Smythe 1, 3020 TE&L sur, 250 ft to N and W lines. J. C. McNeill's J. T. Davis 1, blk 17, H. Haggard sur, 150 ft to S and E lines.

Upton County—Suggs, Chancellor & Co.'s University 1, sec 6, University Lands sur, 960 ft to W and 1017 ft to S line.

Wichita County—W. H. Hammon Estate's S. H. McCarty 3, W. R. Eaves sur, 150 ft to S and E lines. R. T. Couch's E. Smith 1, blk 7, R. Treveno sur, 150 ft to S and E lines. O'Donohoe-Gates Drilling Co.'s Kemp & Allen No. 4, blk 27, W. V. F. L. sur, 150 ft to S and W lines. Texhoma Oil & Ref. Co. & L. H. McCullum's S. B. Burnett 2-B, sec 6, G. R. Meade sur, 50 ft S No. 1. Texhoma Oil & Ref. Co.'s S. B. Burnett 12-B, sec 5, MA&AG Ry sur, no lcn. Empire Gas & Fuel Co.'s Piecre Fordyce 6, sec 9, HT&B Ry sur, no lcn. Magnolia Pet. Co.'s H. Reilly 110, J. Ellis sur, 700 ft S No. 99; H. Reily 111, L. C. Dennison sur, 500 ft E No. 92.

Wilbarger County—B. F. Whellsley's W. T. Waggoner 1, sec 49, H&TC Ry sur, 150 ft to N and W lines. Ray Massie's Bond, Hawkins & Williams 5, sec 100, H&TC Ry sur, 150 ft to S and E lines. South Vernon Oil Co.'s W. H. Stevens 6, sec 83, H&TC Ry sur, 1170 ft to W and 150 ft to E line; W. H. Stevens 7, sec 83, H&TC Ry sur, 1145 ft to W and 150 ft to S line; W. H. Stevens 8, sec 83, H&TC Ry sur, 1170 ft to N and 150 ft to W line. Smith McDonald Drilling Co.'s F. Streit 1, sec 7, H&TC Ry sur, 660 ft to N and W lines. Electra Gulf Oil Co.'s M. Ditto 1, sec 100, H&TC Ry sur, 150 ft to N and E lines.

Webb County—Associated Oil Co.'s Garcia 13, sur 607, 750 ft to N and E lines. Christie

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California.

Number of Wells for Week Ending

	Aug. 8	Aug. 15	Aug. 22	Aug. 29	Sept. 5	Sept. 12	Sept. 19	Sept. 26	Oct. 3	Oct. 10	Oct. 17	Oct. 24	Nov. 1	Nov. 8	Nov. 15	Nov. 22
Kansas	9	12	16	10	19	6	14	23	21	25	16	12	30	38	23	36
Oklahoma	60	53	80	68	51	73	63	60	66	43	32	47	53	77	61	56
Arkansas	13	8	11	2	19	13	13	12	7	7	16	14	12	9	17	16
Louisiana	3	4	8	7	9	9	12	14	5	10	9	5	19	11	10	11
Texas	102	75	89	82	85	130	78	110	96	86	107	129	103	111	150	111
California	24	22	25	16	18	..	14	19	21	18	22	17	20	23	17	16
Total	211	174	229	185	201	231	194	238	216	189	202	224	237	269	278	246

et al's J. M. Garcia 1, sec 1112, blk 13. Plateau Oil Co.'s R. Holbein 1, blk 26, SW cor lot 15.

Young County—Westervelt & Noble's M. K. Graham 5, S. Tankersley sur, no map. W. E. O'Neall's J. W. Bullock 1, 346 TE&L sur, 150 ft to W and 716 ft to S line. Panhandle Ref. Co.'s J. E. Pringle 1, 216 TE&L sur, 2130 ft to S and 150 ft to E line. Knight & Hines' B. B. Colley 1, 242 TE&L sur, 150 ft to N and W lines; S. R. Jeffrey 1, 50 TE&L sur, 150 ft to N and W lines.

OKLAHOMA

Carter County—Humble O. & R. Co., No. 1, J. G. Miller, C NE NE SW 28-1s-3w. Amerada Pet. Corp., No. 6, Carter, C SE NE NW 20-5s-1e.

Creek County — Waite Phillips No. 1 Hill, NEc NW SE 6-16-9. Nowata O. & R. Co., No. 2, McNoe, SWc SE NW 16-16-9. Jordan et al No. 1 Strip, NEc SE SE SE 7-16-12. A. B. Ice No. 1, Lot 10, Block 20, 8-16-12; McFarland No. 1, Lot 9, Funk Subdivision, SEc NE SE SE 8-16-13. Briscoe et al No. 1 Havercamp, SEc SW NW 26-14-9. E. L. Kistler et al No. 2 Scott, NWc NE SW NW 21-14-10.

Comanche County — Humble O. & R. Co., No. 4 Ketchum, SE NE NW 25-1n-9w.

Garvin County—Magnolia Pet. Co., No. 5 E. D. Wyatt, C NE NW NW 13-1n-3w.

Grady County—Oklahoma Natural Gas Co. No. 2 Taylor, NW SE SE 2-4n-8w. O. O. Owens No. 1 Rose, NE NE NE 11-16-5w.

Hughes County—Gypsy Oil Co., No. 1 F. Bowlegs, NW NW SE 22-9-9. Magnolia Pet. Co.'s No. 4 C. Byrd, C SE SE SE 4-9-11. Tidal Osage Oil Co.'s No. 1 Wiley Baker, C SW NW SE 4-9-11. Tidal-Osage No. 1 J. B. Coachman, C SE NW SW 4-9-11. Tidal-Osage No. 1 Torsey, Baker, C SE NE SW 4-9-11; No. 2 Torsey Baker, C SW NE SW 4-9-11. Mid-Kansas No. 2 Torsey Baker, C SE SE SW 4-9-11. Mid-Kansas No. 2 Reed, C NE SW SW 9-9-11.

Jefferson County—Humble Oil & Ref. Co.'s No. 1 Seay, SE NE SE 29-6s-5w.

Okfuskee County — Atlantic Oil Producing Co.'s No. 2 Fisher, SEc NW SE 36-12-10. Atlantic's No. 3 Fisher, C S L NW 36-12-10. Phillips Pet. Co.'s No. 1 Hill, NWc NE NE 1-11-10. Baltimore Co.'s No. 1 Taylor, NWc NE NW 14-11-11. Tidal and Carter's No. 1 Hipsey, King, C SW SW NW 14-10-8.

Okmulgee County—Beggs Oil Co.'s No. 2 Strip, NWc SE SW 3-15-11. Pollyana Oil Co.'s No. 8 Pendleton, NWc NW NE 12-15-11. Gates & Cook Drlg. Co.'s No. 1 McKee, NEc NE SW 3-15-12.

Pawnee County—Magnolia Pet. Co.'s No. 1A, Whitenrule, C NW NW SE 8-22-3e; No. 10 Childs, C NW NW SW 9-23-3e. Josey Oil Co.'s No. 2 Laughlin, SW NW NW 1-18-5e.

Noble County—Comar Oil Co.'s No. 13w, Blubaugh, "A" C SW NW SW 2-24-1w; No. 14w, Blubaugh, "A" C SE NW SW 2-24-1w; No. 17W, Blubaugh, "A" C SW NE SW 2-24-1w. Watchorn O. & G. Co.'s No. 10 Miller, SWc NE NE SW 33-23-1w, (old well deepened). Belt Pet. Co.'s No. 1, Theile, C SE SE 29-21-1e.

Seminole County—Koiner O. & G. Co.'s No. 1, J. Harjo, C SE SE NW 14-11-7. Carter Oil Co.'s No. 1, N. Dunn, C SW SW NW 3-10-8. Gypsy Oil Co.'s No. 7, Yarhola, C NW NE NW SW 3-10-8. Cosden O. & G. Co.'s No. 13, N. Jackson, C SW 3-10-8; No. 14 N. Jackson, C NW SE SW 4-10-8; No. 15 N. Jackson, C SW NE SW 4-10-8. Gypsy Oil Co.'s No. 3 K. Willis, C SE NE NE 8-10-8; No. 4 J. Willis, C SW SE NE 8-10-8. Dixie Oil Co.'s No. 2 Howard and Ligon, C NE SW SE 25-8-7.

Stephens County—Lone Star Gas Co.'s No. 5 A. Reavis, NE NE SE 24-1s-9w. Carter Oil Co.'s No. 1 Edmunson, SE NE NE 25-1s-9w (old well deepened). C. & O. Drlg. Co.'s No. 2 Warner, SW SW NE 22-1s-8w.

Tulsa County—Shaffer O. & R. Co.'s No. 3 Partridge, SEc NW SW 5-19-12. Echo Oil Co.'s No. 11 Grayson, SWc SE NE 5-19-12. Thomas & Black No. 3 Partridge, NEc SW SW 5-19-12. Sand Springs Home No. 7, Bruner, SWc SE SW 6-19-12. Saunders et al's No. 1A, Unallotted, SWc NW SE 27-19-12. T. A. Creekmore No. 1, Cowan, SEc SW NW 14-16-12.

CALIFORNIA

Dominguez Fie'd—Associated Oil Co.'s De Francia No. 6, 34-3-13. Shell Oil Co.'s Manuel 4, 34-3-13.

Elk Hills Field—Standard Oil Co.'s Tupman No. 43, 36-30-24.

Kings County—Geo. W. Shearer's No. 1, 18-23-19.

Long Beach Field—W. R. Ramsey's No. B-5, 28-4-12. R. M. Cook's Hall Weber No. 3, 29-4-12.

Bardsdale Field—Acme Pet. Corp. & Cal-Mex Oil & Ref. Co.'s Frey No. 1, 2-3-19.

Midway Field—C. C. M. O. Co.'s No. 34, 22-31-22.

Newport Field—A. J. Delaney's No. 2, 29-6-10; No. 3, 29-6-10.

Richfield Field—General Pet. Corp.'s Thompsin No. 6, 28-3-9.

Rosecrans Field — General Pet. Corp.'s Vaughn No. 2, 18-3-13.

Seepe Field—R. F. Labonge's Kentuck No. 12, 1-4-20.

Sunset Field—Standard Oil Co.'s Monarch No. 43, 2-11-24.

Torrance Field—Superior Oil Co.'s Torrance No. 52, 19-4-13.

Ventura Field—Associated Oil Co.'s Lloyd No. 17, 27-3-23.

LOUISIANA

Bossier Parish—The Paimer Corp.'s Hodges No. B-6, 25-16n-12w, 1320 ft W and 1980 ft N of SE Corner.

Caddo Parish—B. F. Stith, Trustee's Spearman No. 1, 11-23n-16w, 660 ft N and 660 ft W of SE Cor. NE¼.

Cameron Parish—Yount-Lee Oil Co.'s Gulf Land Co. No. 6, 15-12s-10w, 510 ft N and 150 ft E of SW Cor.

Ouachita Parish — La Del Oil Properties' Fee No. 32, 6-19n-5e, 755 ft S and 660 ft E of NW Corner.

Sabine Parish—L. M. Emlet's Bowman-Hicks No. 4, 8-7n-12w, 840 ft S and 484 ft E of NW Cor. SW¼ NE¼.

Webster Parish—Alabama Pet. Co.'s Coffee-Ramsey No. 1, 19-21n-9w, 330 ft N and 330 ft E of SW Cor. NW¼ NW¼; Smith No. 1, 29-21n-10w, 330 ft S and 330 ft W of NE Cor. SE¼ NE¼. Bethany Oil & Gas Co.'s Wise 2, 6-22n-9w, 1320 ft S and 660 ft E of NW Cor. SW¼. Humble Oil & Ref. Co.'s Bodcau Lbr. Co. No. B-7, 28-21n-10w, 330 ft S and 990 ft W of NE Cor of SE¼; Davis 2, 24-21n-10w, 330 ft S and 990 ft W of NE Corner. Tidal Oil Co.'s Bodcau Lbr. Co. No. 1, 28-21n-10w, 330 ft N and 330 ft E of SW Cor. SE¼ of NE¼.

ARKANSAS

Nevada County—Greason et al's McKinney 1, 10-14-21, 200 ft S and E of NWc NE¼ SW¼.

Ouachita County—Bray & Hawthorne's Goodwin 1, 12-15-17, center of south line of NW¼ SE¼. Burton Trust's Hughes 11, 21-15-16, 200 ft S and E of NWc SE¼ SW¼. Forrest City Box Co.'s Fee 1, 31-15-16, 200 ft S and W of NEc NW¼ SW¼. Hunt et al's Anderson A-3, 23-15-17, 200 ft S and E of NWc NE¼ SE¼. Leon et al's Berg 2, 4-16-15, 200 ft S and W of NEc Lot 2, NE¼. Magnolia Pet. Co.'s Brown 3, 26-15-17, 200 ft N and E of SWc SE¼ SE¼. Riggs et al's Green 1, 23-15-17, 200 ft N and W of SEc SW¼. J. S. Smith's Shirey 2, 36-15-17, 200 ft S and W of NEc SW¼ NW¼. The Texas Co.'s Reynolds 1, 23-15-17, 200 ft N and E of SWc SW¼ NE¼.

Union County—Federal Pet. Co.'s Childs 1, 8-16-16, old well to be deepened. Kinnebrew et al's Williams 4, 3-16-15, center of lot 3 in NE¼ of section. Liberty Oil Co.'s Davis 1, 31-16-14, 200 ft S and E of NWc of section. Marr et al's Dumas 1, 15-17-16, 200 ft N and W of SEc NE¼ SW¼. Rogers et al's Craig 2, 17-16-15, 200 ft S and W of NEc of section. Terry Summerfield Oil Co.'s Smith 6, 29-17-14, 200 ft N and E of SWc of Lot 10 in NW¼ of section.

KANSAS

Butler County—Phillips Pet. Co.'s No. 1 Fitch, NWc NE 5-25-4.

Cowley County—Sinclair Oil & Gas Co.'s No. 1 Spengler, SEc NW 13-32-4.

Elk County—Jones et al's No. 1 Holliday, C W L SW SW 24-28-11. Empire Gas & Fuel Co.'s No. 2 Portor, NEc NW NW 13-29-8. Lemon et al's No. 1 Wheeler, C SW NE 28-29-8. Watchorn Oil & Gas Co.'s No. 5 Denton, C W L NE NW 3-30-9. Pennock Oil Co.'s No. 2 Beaty, SWc SE NE 30-30-11. Gibson et al's No. 1 McCury, C NW NE 15-31-12.

Franklin County—Omar Oil & Gas Co.'s No. 1 Bush, SEc SW 25-17-17.

Greenwood County—Phillips Pet. Co.'s No. 2 Cravet, NEc SW SW 22-22-11. Skelly Oil Co.'s No. 1 Teeter, SEc NW NW 15-23-9; No. 2 Teeter, NEc NW SW 15-23-9; No. 3 Teeter, NWc NE SW 15-23-9. McGuinnis & Bittler's No. 1 Teeter, SWc SE NW 15-23-9; No. 2 Teeter, SWc NE NW 15-23-9. Carter Oil Co.'s No. 1 Wiggins, SWc NE SE 27-24-9. Skelly Oil Co.'s No. 3 Johnson, SWc NW SE 15-24-12. Kittle et al's No. 1 Morris, SWc NW NW 28-24-13. Roth & Farout's No. 2 Beckett, NWc SE NW 12-25-8. Taylor-Lewis & Cook's No. 1 Johnson, NEc SE 15-28-13.

McPherson County—Wynn et al's No. 1 Anderson, SWc NW 3-17-2w. Moung et al's No. 1 Anderson, 3-18-2w.

Montgomery County—Dunn et al's No. 1 Newman, SEc NE 2-32-13. Cross Producing Co.'s No. 1 Good, SEc SW NE 12-32-16. Appleman et al's No. 1 Leff, NEc SW 22-33-17.

Saline County—Brown & Woodard's No. 1 Shelton, SEc 26-15-2w.

Summer County—Waite Phillips' No. 1 Pruett, NWc SE 26-33-1. Floyd O. Howorth's No. 1 Nyers, NWc NE 13-35-1.

Wilson County—Pulaski Oil Co.'s No. 1 McCray, SEc NE 36-28-13. Kors et al's No. 1 Asheroff, SWc SE NW 31-30-14. H. P. Glidden No. 1 Blair, C NW 27-30-15.

Woodson County—Peerless Oil & Gas Co.'s No. 8 Bahr, C B L S½ NW 23-23-13. Franklin Oil Co.'s No. 1 Weide, SEc NE 31-23-15. Rogers & Hinkle's No. 4 Weide, NWc NE NW 32-23-15. Skelly Oil Co.'s No. 1 Rhea, C W L SE SW 13-23-13. Iowa-Kansas Dev. Co.'s No. 1 Allen, NEc SE NE 2-24-14.

Production Tax Ordered Paid on Wells in River

Washington, D. C.—Payment of a gross production tax to the State of Texas, estimated at approximately $150,000, from the production from Texas wells involved in the Red River case during the period of receivership, has been ordered by the United States Supreme Court on a motion filed for the state by Attorney General W. A. Keeling. The money will be paid from the fund accumulated by the receiver from the three-sixteenths of the revenue accruing during the receivership.

Payment of a pipe line tax on one-twentieth of one per cent, in addition to the gross production tax, also sought by the State of Texas, was denied by the court.

Discussing the action of the court, Attorney General Keeling explained that in addition to the gross production tax, the state will receive an ad valorem tax on the property found by the court's decision to have been in Texas, which was held by the receiver during the five years of litigation. This will be assessed without penalties, it having been decided that the property should not be held delinquent by any act of the owners.

WILDCATS FROM ALL SECTIONS

Reagan County's Second Largest Well Boosts Production to 10,000 Barrels

Fort Worth, Texas, Nov. 24.—Flowing natural at the rate of 130 barrels per hour during the first three hours after being drilled in, the Big Lake Oil Company's thirteenth test on University land in Reagan County is showing for the second largest producer completed in the Big Lake field to date, although only 11 feet in the sandy lime pay at a total depth of 3050 feet. This well came in Sunday, and increased its flow to 141 barrels per hour after producing several hours. It is located in the southwest corner of the northeast 40 acres in section 12, block 2, and in a line between the largest well in the field and the discovery well. This new well was drilled by Root and Rhoades, drilling contractors, with cable tools in exactly 52 days, and probably established a new record for drilling time in the field. The Big Lake Oil Company's University 15 was spudded with rotary equipment by J. D. Wade, drilling contractor, on the same day as the above new producer, and is now drilling below 2691 feet. This rotary test is the next completion scheduled for the field.

The new well brought in by the Big Lake Oil Company Sunday is the third completion in the upper part of the field where the heaviest production has been found to date. The Big Lake Oil Company's University 11, located in the southwest corner of section 24, block 9, has produced approximately 250,000 barrels since its completion July 31 from pay at 2942-56 feet and 2968-70 feet with initial flow of 142 barrels per hour. The same company's University 5, located in section 13, is expected to develop into an equally as large well when drilled in a like distance into the pay, it has been flowing approximately 60 barrels daily by heads since its completion April 29 from only four feet of pay at 2967 feet. A string of tools and other junk is lost in the University 5, and an effort is being made to clean out the hole to deepen to the big pay level.

Daily production in the Big Lake field jumped to approximately 10,000 barrels early this week as rsult of the completion of a new well, and prior to Sunday the Big Lake Oil Company's production from nine pumping and flowing wells was averaging 5200 barrels daily, while the Texon Oil and Land Company's single producer is holding to 1600 barrels daily. The Big Lake Company has increased its crude stocks in the field to 145,675 barrels, while the Texon Company reports approximately 29,275 barrels of crude in storage. Big Lake and Texon Companies are making regular deliveries to the Marland Oil Company for tank car shipment to Texas City, while the former is also selling some crude to the Rio Grande Oil Company of El Paso and to wildcat operators for fuel until the crude contract with Marland becomes effective on or about December 1, 1924.

Marland Oil Company of Texas is making good progress in erecting its tank farm near the Big Lake field, and will be ready to receive oil in the first tank before the first of the year. Materials for four 80,000 barrel tanks have been delivered, while purchase orders are to be placed this week for six more tanks of the same size, making a total of ten 80's for the first unit of the Reagan County tank farm. In connection with the Big Lake crude contract Marland is erecting eight 80,000 barrel tanks at its shipping terminals at Texas City, to receive crude that will be shipped from Reagan County via tank cars until a pipe line connection is built from the field to Texas City.

The Arkansas Fuel Oil Company's University 1, located in section 9, block 1, and about eight miles southwest of the Big Lake field, failed to show for a producer in the regular 3000-foot horizon, and is now drilling ahead below 3240 feet.

New territory was proven for production in Mitchell County last week when the Morrison-Rowe Lease Syndicate's W. D. Keynard 1, section 15, block 28, T. & P. survey, made a flow of about 80 barrels after being shot with 140 quarts at 2908 feet. Drilling activity in Mitchell County has slowed up since the discovery of big flush production in Reagan County, and only a comparatively few number of tests are underway. The California Company, which is the largest producer and lease owner in Mitchell County, is drilling three tests, and has been gradually reducing its volume of drilling in the county since interest in West Texas shifted to the Reagan County district.

Oil Shale Lands in Utah Added to Naval Reserve

Washington, D. C., Nov. 24.—The setting aside of 4880 acres of land in the State of Utah, to be made a part of Naval Oil Shale Reserve No. 2, was last week authorized in an executive order signed by President Coolidge. The addition was made as result of investigations conducted by the general land office, which found that certain school sections of land within the area granted to the State of Utah contained valuable deposits of shale and were known to be of such character prior to the dates the rights of the state would have attached. The grants to Utah were made on the contingency that the lands affected were not found to be mineral bearing.

Naval Oil Shale Reserve No. 2 was established in 1916 with approximately 86,584 acres of land, which by the addition of these school lands, now becomes 91,464 acres.

Here are some of the faithful gathered to watch the performance of the Gulf wildcat test on the Cannon farm in Hunt County.

Left to right the men and their affiliations are: J. D. Brock, independent; W. P. Craddock, Kirby Petroleum Co.; M. L. Kleinsmith, independent; W. C. McGlothlin, Gulf Production Co.; F. S. Pope, Humble Oil & Ref. Co.; A. Merrick, independent; W. L. Goldston, Texas-Unity Oil Co.; R. D. McClver, Gulf Production Co.; L. T. Dernier, independent; G. C. Thorne, The Texas Company; C. P. Chisholm, Pure Oil Co.; H. M. Robinson, independent; H. S. Cave, The Texas Company.

Central West Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Concho County—		
Dome Production Co. Mrs. C. M. Hartgrove 1	*	1430
Reagan County—		
Big Lake Oil Co. University 13 (Sec. 12, Blk. 2)	3300	3050

DRILLING REPORT

BROWN COUNTY—M. T. Anderson-Moore et al's Wheeler 1, sd 2790 ft. Canyon Oil & Gas Co.'s Ellsberry 1, rigging up. Gillman et al's Newton 6, rig. Gully & Griffin's Cox 1, dr 2325 ft. Honea et al's E. DeBusk 2, dr 2400 ft. Moore & Wilson's Williams 1, dr 1110 ft. C. O. Moore et al's Teston 1, dd, dr 1215 ft. McMurray et al's Newton 2, machine. New Era Oil Co.'s Prather 3, dr 515 ft. Omaha Southern Oil Co.'s G. B. Gaines 2, sd 1840 ft. Stone & Co.'s Gunn 1, testing oil pay 1212 ft; Gunn 2, rigging up. T. B. Slick et al's Chambers 1, sd 1335 ft. Thomas et al's Bohara 1, sd repairs 2410 ft. Williams et al's H. A. Newton 1, spudding.

CALLAHAN COUNTY — Blair et al's Cathey 5, sd 1785 ft. Byron-Union Oil Co.'s Hennessey 1, dd, dr 4310 ft. Chas. Dutton et al's Cathey 5, rig; Cathey 7, rig; Harwell 1, sd 800 ft. Hickey et al's E. L. Findley 2-A, rig. Junior Oil Co.'s A. L. Huntington 1, sd 2280 ft. Kellogg Drilling Co.'s Snyder 1, dr 2475 ft. McMath et al's Isenhower 1, spd and sd. O'Donnell et al's Cathey 1, rig. Pope-Wilson & Pennant Oil & Gas Co.'s W. B. Bryson 4, fsh 2055 ft. Prewitt et al's W. W. Crane 1, dr 1510 ft; Geo. T. Crane 1, dr 1500 ft; Crane 2, dr 810 ft; White 1, sd 2085 ft; Windham 1, casing off water 1435 ft. Seaboard Oil & Gas Co.'s Isenhower 2-A, rig.

JOHNSON COUNTY—Culberson, Wyley & Dunlap's A. B. Pullen 1, (T. S. Roberts sur) dr 1275 ft.

PALO PINTO COUNTY—Cameron & Anderson's W. O. Pollard 2, spd and sd. J. D. Cranford et al's L. Smith 1, spd and sd. Dittman et al's Bigler 1, sd 3680 ft. Hall et al's Chenault 1, sd 715 ft. Hughes et al's Belding 1, dr 2680 ft; Weldon 2, dr 2895 ft. McKinney et al's Marsden 1, sd 465 ft. S. W. Manning et al's R. Hitson 1, sd 3675 ft. Phillips et al's Stringer 1, dr 1275 ft. Phillips & Graham's J. A. Caudill 1, sd 2800 ft. Pender Production Co.'s Slemmons 2, dr 3015 ft. B. H. Talbert et al's Slimp 1, sd 1105 ft. Wickens et al's Williams 1, dr 540 ft.

PARKER COUNTY—Chas. Wooldridge et al's B. C. Evans 1, (2 miles south of Whit) rig.

SOMERVELL COUNTY — Glenrose Oil & Gas Co. et al's J. R. Buzan 1, (4½ miles SW of Glenrose) dr blue shale 3355 ft.

BREWSTER COUNTY—Texas Oil Corp.'s A. S. Cage 1, sd 2555 ft. Brewster Oil Corp.'s W. H. Kokernot 1, sd 2535 ft. Portland Oil & Gas Co.'s State 1, sd 3050 ft. Nine Points Oil & Gas Co.'s Peralto & Finnell 1, sd 3060 ft. Green Valley Oil Co.'s J. P. Wilson 1, co 1800 ft.

COKE COUNTY—John Sward's J. R. Mims 1, materials. Mexia-Equitable Oil Co.'s W. H. Hodges 1, sd 2500 ft.

CONCHO COUNTY — Dome Production Co.'s Mrs. C. M. Hartgrove 2, spudding with star. Schultz Oil Co.'s W. O. Schultz 1, sd 3225 ft.

CRANE COUNTY — Texas Development Co.'s Jax Cowden 1, dr 2650 ft; Cowden 2, lcn.

CROCKETT COUNTY — Crockett Drilling Synd.'s Robt. Massey 1, sd indefinitely 1755 ft. World Co.'s L. P. Powell 1, dr 1310 ft. Seaboard Oil & Gas Co.'s University 1, lcn. Mid-West Texas Oil Co.'s University 1, (Sec. 14, Blk. 50) lcn.

CULBERSON COUNTY— David Flood et al's McAlpine & Crisham 2, lcn. J. D. Wesner et al's Mack Sayles 1, sd 3105 ft.

DAWSON COUNTY — Lamesa Oil Co.'s John Burns 1, sd 2150 ft.

ECTOR COUNTY—Farmers Oil Co.'s Andy Newham 1, sd 1400 ft.

FISHER COUNTY—Pyron Oil Co.'s J. S. McCall 1 ,sd 3120 ft.

GARZA COUNTY—B. V. Blackwell et al's J. M. Boren 1, (Sec. 136, Blk. 5, H&GN Sur.) co with small show oil after shot 2443 ft. Mitchell-McDonald & Jewell's Clyde Connell 1, sd for cas 750 ft.

GLASSCOCK COUNTY — Gulf Production Co.'s L. S. McDowell 1-C, dr gray lime 2630 ft. Cushing Ranch Drilling Assn.'s W. H. Sparkman 1, sd 1950 ft. Ledger Oil Co.'s C. I. Brunson 1, sd 3520 ft.

HUDSPETH COUNTY—Boole Oil Assn.'s Gardner et al 1, sd 1540 ft. Hueco Basin Oil Co.'s University 1, sd 2560 ft. Wm. Loftus et al's Minnie Veal Slaughter 1, sd 1590 ft.

HOWARD COUNTY—Big Springs Oil Co.'s Mable O. Quinn 1, sd 3640 ft.

IRION COUNTY—Orient Oil Co.'s J. D. Sugg 1, (Sec. 27, Blk. 2, H&TC sur) dr 1410 ft. Virginia-Texas Pet. Co.'s Tom Green County School Fee (S of Orient RR) rigged up.

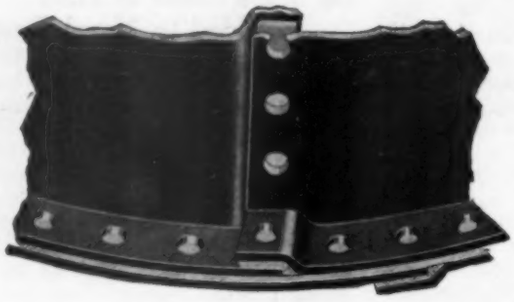
JONES COUNTY—Anson Oil & Dev. Co.'s C. B. Brown 1, sd 1855 ft. C-H Oil & Dev. Co.'s J. A. Cullom 1, sd 3500 ft.

KARNES COUNTY — Alidor Oil Co.'s A. W. Hyatt 1, sd with show gas 1156 ft.

LOVING COUNTY—J. J. Wheat et al's N. E. Chapman 1, fsh tools 715 ft. Ramsey Prod. Co.'s Russell 1, sd 4485 ft; Russell 2, sd 810 ft.

MITCHELL COUNTY—The California Co.'s Clark 1, dr 1800 ft; H. C. Miller 5, dr 2200 ft; W. H. Abrams (T&P) 7, dr 2750 ft. M. E. Eddleman et al's A. C. Gist 1, dr 2865 ft. Sloan Oil Co. et al's H. C. Miller 3, dr 480 ft. Chal. Daniels et al's W. D. Kyanrd 1, rig. I. B. Humphreys et al's P. C. Coleman 1, co after shot 3115-70 ft. Morrison-Rowe Lease Synd.'s W. D. Kynard 1, flowed after shot 140 qts 2908 ft. J. T. Harris et al's W. C. Brown 1, sd 370 ft; Brown 2, sd 205 ft.

PECOS COUNTY — Plymouth Oil Co.'s Perry Ranch 1, rigging up. Arkansas Fuel Oil Co.'s Blackstone & Slaughter 1, dr 150 ft. Transcontinental Oil Co.'s Sherbino 1, dr 700 ft. Trans-Pecos Oil Co.'s H. L. Thomas 1, fsh cas and tools 1830 ft; W. W. Turney 1, sd



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If you were building your own tanks which way would you prefer to build them?

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12 to 3,000 Barrels Capacity

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Prompt, Dependable, Export Service

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2900 ft; Bennett 1, sd 1240 ft; Troy-Johnson 1, sd 2965 ft. Southern States Lease & Prod. Co.'s J. M. Odem 1, sd 1205 ft.

REAGAN COUNTY — Arkansas Fuel Oil Co.'s Univeristy 1, (Sec. 9, Blk. 6) dr 3240 ft. Big Lake Oil Co.'s University 14, (Sec. 1, Blk. 2) dr 2575 ft; University 15, (Sec. 12, Blk. 2) dr with rotary 2691 ft. Brandon-McCamey et al's University 1, (Sec. 27, Blk. 2) spudding B. H. Cogdell et al's University 1, (Sec. 23, Blk. 8) spd and sd. Crockett Drilling Synd.'s University 1, (Sec. 9, Blk. 9) sd for 6⅝ cas 2930 ft. The California Co.'s University 1, (Sec. 13, Blk. 8) dr 1010 ft. H. S. Grayson et al's University 1, (Sec. 28, Blk 8) rig. J. K. Hughes et al's University 1, (Sec. 5, Blk. 9) spd and sd. P. H. Hoffman et al's University 1, (Sec. 23, Blk. 11) spd and sd. Mid-Kansas & Transcontinental's Hughes-Mason 1, (Sec. 1225, EL & RR sur), dr 500 ft. Simms Oil Co.'s Sawyer Cattle Co. 1, (Sec. 12, S. A. Glass sur) rigging up. J. T. Stover et al's University 1, (Sec. 34, Blk. 11) rigging up. Texon Oil & Land Co.'s University 1, Group 2, (Sec. 22, Blk. 9) pul cas 3850 ft; University 2, Group 1, (Sec. 36, Blk. 9) dr 2575 ft; University 3, Group 1, (Sec. 36, Blk. 9) dr 1100 ft; University 4, Group 1, (Sec. 1, Blk. 8) rigging up. Transcontinental Oil Co.'s University 1, (Sec. 10, Blk. 1) sd repair boiler 2270 ft. University Oil Co.'s University 1, (Sec. 17, Blk. 10) dr 1010 ft. C. J. Wrightsman et al's Ingham 1, (Sec. 39, Blk "C", L. & S. V. Ry sur) sd for cas 305 ft.

REEVES COUNTY — Dixieland Oil Co.'s Oates 2, sd 4505 ft. Dome Drilling Synd.'s Ira J. Bell 1, sd for standard rig 585 ft.

RUNNELS COUNTY — Subscribers Assn's R. R. Russell-Giesezke 1, sd 2876 ft.

SCURRY COUNTY—Camp Springs Oil & Ref. Co.'s W. Y. Jones 1, sd 600 ft; J. O. Quinn 1, sd 3570 ft; L. E. Howell 1, lcn. Hermleigh Oil & Gas Co.'s J. W. Burris 1, sd 2965 ft. Stanton Oil & Gas Co.'s J. W. Riley 1, sd 2500 ft.

STERLING COUNTY—Ford & Cogdell et al's W. L. Foster 1, dr 625 ft. Chicago-Texas Oil & Gas Synd.'s D. C. Durham 1, co 1427 ft; Durham 2, (Sec. 8, Blk. 12, SP Ry sur) showing for small oil pumper in sandy lime pay 1401-06 ft. Co-Operative Lease & Dev. Co.'s Douthitt 1, dr by drill stem 1950 ft. Fidelity Oil Co.'s G. R. Hull 1, co to set cas 1708 ft. John W. Sward et al's L. T. Clark 1, rigging up.

STONEWALL COUNTY—Elder Nance et al's Ward Estate 1, sd 1795 ft.

TAYLOR COUNTY — Sanger Oil & Ref. Co.'s McClure 1, lcn; S. P. Hollingshead 1, dr 710 ft; Tom Sawyer 1, sd 2700 ft.

TERRELL COUNTY—R. E. Dunn et al's Fee 1, star machine. Southwest Texas Oil & Gas Co.'s Fee 1, sd 3515 ft.

UPTON COUNTY—W. P. Morris et al's H. M. Halff 1, spd and sd. Bell & Regan's University 1, (Sec. 2, Blk. 4) rigging up. Suggs & Chancellor et al's University 1, (Sec. 8, Blk. 4) lcn. Virginia-Texas Pet. Co.'s University 1, (Sec. 14, Blk. 15) dr 365 ft.

VAL VERDE COUNTY—East Del Rio Oil Co.'s Russell & Weathersbee 1, sd 2605 ft. Independent Operators' Whitehead 1, sd 2155 ft. Joe W. Morris et al's Moore Estate 1, sd 2280 ft. Re-Clamation Oil Prod. Synd.'s J. B. Moore 1, sd 2575 ft. Hodges & Wright's B. S. Harrison 1, sd 1010 ft.

WARD COUNTY — Cook & O'Brien's G. W. O'Brien 1, sd 1175 ft. Trans-Pecos Oil Co.'s Longnecker 1, sd 1755 ft.

Run Line Through Los Angeles

Los Angeles, Calif., Nov. 22.—The Los Angeles Midway Pipe Line Company, a Doheny organization with E. L. Doheny, Jr., as president, this week was granted a franchise to lay a pipe line along certain streets of Los Angeles. This is the line that will connect Los Angeles Harbor with the Kern county fields. It is understood that the company must pay around $44,000 a year on the franchise, which will run 21 years.

Coastal Wildcats

ANGELINA COUNTY — Ferdinand Heine's Heine 1, J. H. Ellison sur, 150 ft to S and 170 ft to W line, td 536 ft, installing new pump. Peavy Roller et al's Peavy 1, Browning sur, 6 miles W of Lufkin, 300 ft NW Peavy Homestead sur, temp abn.

BRAZORIA COUNTY—D. F. Ryan Prod. Co. and Hamm et al's Bryan 1, at Freeport, J. G. McNeel sur, dr below 3000 ft in gumbo. Hamm et al's Bryan Estate 1, Damon Homestead, T. H. Bryan Estate, dr below 1400 ft.

FORT BEND COUNTY — Gulf Prod. Co.'s Moore 2, Burknap sur, 1050 ft N No. 1, rigging up. Pathfinder Oil Co.'s Davis Estate 5, sec 101, Philo-Fairchilds sur, S No. 4, dr below 660 in gypsum. Jas W. Rich et al's Moore-Hager 2, ready to spud in. Rycade Oil Corp.'s Nash A-1, 2600 ft E and 200 ft S of NW cor Nash's 200 acre lease, abn in sand and shale at 2209 ft; Nash B-2, Alsberry sur, 400 ft E and 600 ft S of NW cor of Capt. Nash's 486 acre tract, 28 degrees NW and 4650 ft NW No. 1, dr below 215 ft in gumbo; Nash A-2, 1000 ft W of A-1, rigging up. Texas Co.'s Fee 1, at Big Creek, 2100 ft NE of W cor and along NW line, and 50 ft SE at right angles from Texas Co.'s N line, dr below 2310 ft in gumbo.

GALVESTON COUNTY—Gulf Prod. Co.'s Geo. E. Smith 1, at High Island, sd for water.

GRIMES COUNTY—L. F. McCausland et al's Dodd 1, 3 miles W of Iola, Timothy Jones League, 150 acre tract of Dodd farm, dr below 2520 ft.

HARDIN COUNTY—Kirby Pet. Co., Munson & Anderson et al's Hodges 3, near Batson, Hodges 202 acre lease, setting 9-inch screen, td 3135 ft.

HARRIS COUNTY — Dome Dev. & Pet.

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Sturdy four-cylinder motor, combined with friction transmission, securely mounted on heavy frame, alloy steel shafting, machine cut gears, ball and roller bearings produce this most simple, compact and economical outfit—the

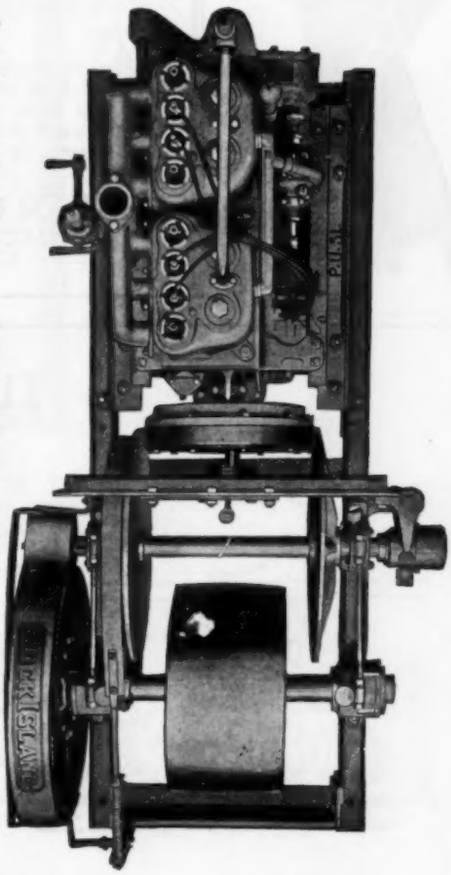
Rock Island P U 51

Each assembly may be removed without disturbing the remainder of the unit.

Friction drive gives seven speeds forward, seven reverse — replaces clutch, transmission and reverse gears.

High grade materials give surplus strength with light weight. Anti-friction bearings mean a larger proportion of the power delivered. Central location of belt pulley equalizes load on large Hyatt Roller Bearings and reduces strain on the main frame.

Motor operates on natural gas or gasoline — under complete control from well platform.



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Co.'s Schneider 1, Schneider farm, blk 41, John D. Taylor sur, temp abn.

JACKSON COUNTY—Vanderbilt Pet. Co.'s Seliner 1, 4 miles N Vanderbilt, C. W. Hall subdivision of Harwood-Burns ranch, waiting on fuel oil, td 2720 ft in lime and gumbo. Jackson County Oil Syndicate's Drushell 2, completed as gasser, making about 50,000 cubic feet.

JEFFERSON COUNTY—Houston Oil Co.'s Gulf-Pipkin 1, Pipkin & Davis sur, dr below 3007 ft in sandy lime; Sun-Pipkin 1, Pipkin & Davis sur, reaming below 2993 ft. Paggi Bros.' Miller 1, N. G. Lazerine league, 300 ft W of public road, 1000 ft N of S line of league, dr below 2060 ft. Rycade Oil Corp.'s Gladys City 1, at Spindle Top, 55 ft E and 50 ft N of SE cor of blk 47, J. A. Veatch sur, abn in lime, sand and shale at 3962 ft.

LIBERTY COUNTY—Texas Co.'s Fee 1, 2000 ft NW Ott 1, rigging up.

MATAGORDA COUNTY—Marlan Oil Co.'s well, Jeremiah Dwyer sur, dr below 3560 ft. Rycade Oil Corp.'s Gray 1, offset to Sisk 1, 150 ft N of N line of Texas Co.'s 20 acre lease, 150 ft W of E line of blk 2, dr below 3915 ft in anhydrite. Rycade Oil Corp.'s Hudson 3, 100 ft W and 1200 ft S of NE cor blk 15, Parker sur, abn in salt below 3714 ft; Sisk 1, at Markham, 150 ft N of SE cor blk 2, Texas Co.'s 20 acre lease, abn in anhydrite at 3666 ft.

MILAM COUNTY—Sinclair Oil & Gas Co.'s Smith 1, 12 miles SE of Cameron, Smith-Turney structure, 7000 acre block, 300 ft N and 300 ft W of NW cor of R. N. Turney's 162 acre lease, land of H. F. Smith Jr., dr below 2210 ft in gumbo.

WHARTON COUNTY — Gulf Prod. Co.'s Cloud 1, dr below 900 ft in gumbo. Union Sulphur Co.'s well, 4 miles N Hungerford, abn below 1500 ft.

Operates Cleaner And Faster---Baker Clean-Out Bailer

Saving in time alone will pay for a BAKER Clean-out Bailer in a few runs. There is no packed sand or shale that is too dense for a "BAKER" to eat through in short order.

This superior tool maintains its unquestioned lead over all other types of bailers. If you have never used one you have an experience in efficiency coming to you that will result in "BAKER" ever afterwards.

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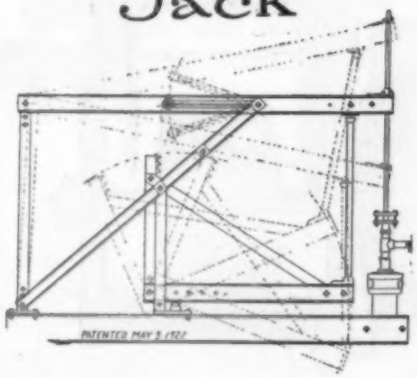
The Jensen Straight Lift Jack



The Polished Rod *can't* Bend

The Jensen Jack lifts it *Straight up,* and lowers it *straight down*

without any strain or excessive wear on the Rod, or on the Stuffing Box Rings, or on anything else.

The Straight Lift makes a five-foot stroke practical. Made in No. 2 and No. 3 sizes.

Jensen Bros. Mfg. Co.
Nowata, Oklahoma

East Central Texas Wildcats

COMPLETION

Hunt County—

Gulf Prod. Co. C. M. Cannon 1, (Robt. Ragsdale sur) . . . . . * 3275

DRILLING REPORT

BOWIE COUNTY—Boyd Oil Co.'s C. H. Thompson 1, (Jacob Barkman sur) chalk 1546 to 2070 ft, dr in shale 2925 ft. Mission Oil Co.'s W. H. Nelson 1-A, (Nancy Dycus sur) sd 2660 ft. Geo. B. McCullough & Roell's W. R. Williams 1, (L. M. Rice sur) spd and sd. Williams et al's Daulby 1, sd 2050 ft.

FALLS COUNTY (KOSSE DISTRICT)—C. W. Harrison et al's J. W. Preston 1, (H. Anderson sur) sd with fishing job 2915 ft.

FANNIN COUNTY—Lester Pet. Co.'s S. D. Graves 1, (Wm. Hutchins sur) dr 2075 ft.

FRANKLIN COUNTY — Marshall & DeGenther's Swanner 1, (Hanks sur) sd for cas 1800 ft.

HENDERSON COUNTY—Fred E. Haynes et al's E. G. Bounds 2, (Henry Jeffreys sur) fsh cas 2150 ft.

HOPKINS COUNTY — Gulf Production Co.'s W. J. Davis 1, (Jas. Clark sur) lcn. Bar-Tex Drilling Co.'s C. H. McClure 1, (D. Waggoner sur) rig. Stough & Potts' J. R. Fitzgerald 1, (John Binnion sur) dr 1510 ft. C. A. Kelsey et al's Addie Brooks 1, (D. Dowdle sur) dr 1765 ft.

KAUFMAN COUNTY—Marland Oil Co.'s G. W. Kelley 1, (Green Lee sur) top chalk 2448 ft, sd to cure titles 3105 ft. J. A. Germany et al's W. S. Kirby 1, (E. Edens sur) sd 2896 ft.

LAMAR COUNTY—Interstate Oil Co.'s Ben Hayes 1, (Larkin-Rattan sur) steel dk.

LIMESTONE COUNTY—Boyd Oil Co.'s N. B. Boyd 1, (Wortham dist.) flowing by heads 3089 ft. W. T. Church et al's R. Kennedy 1, gas shut in 2947 ft. Hamil Drilling Co. et al's Roscoe Cook 1, sd 3675 ft. Z. Gardner et al's E. M. Speight 1, chalk from 2536-3171 ft, dr 3580 ft. Patty et al's Hornbeck 1, (John Boyd sur) top chalk 2160 ft, dr in chalk 2220 ft. Pure Oil Co.'s J. W. Webster 1, (E. W. Jackson sur) fsh drill stem 2865 ft.

NAVARRO COUNTY—Bankers Trust Co.'s McCormick 1, (18 miles NW of Corsicana) sd 1879 ft. Ilseng & Patrick's W. L. Roberts 1, (Jos. Mayor sur) sd 1740 ft. E. C. Mead et al's M. E. Talley 1, (Richland dist.) rigging up. Gilbert Johnson et al's J. W. Greer 1, (G. Rushian sur) dr 3260 ft Elliott & Nicolle's D. J. Westbrook 1, (Henry H. Horn sur) rigging up. Sun Oil Co.'s Earnest Swink 1, (Richland dist.) rigging up.

RAINS COUNTY—Ferguson & Short Bros.' W. D. Peeples 1, (J. A. Tibbles sur) spd and sd.

ROCKWALL COUNTY—Geo. Rochelle et al's J. S. Shook 1, (S. S. McCurry sur) fsh dril stem at 2100 ft, td 3010 ft.

RED RIVER COUNTY—Johnson Pet. Co.'s Antone & Worley 1, (Robt. Gamble sur) sd 3275 ft.

TITUS COUNTY — Magnolia Pet. Co.'s George Antone 1, (M. V. Delgado sur) dr 1165 ft.

VAN ZANDT COUNTY—Porter-Holmes & Frank Buttram's J. T. Dunbar 1, (Van Sickle sur) testing Woodbine sand 3055 ...

WOOD COUNTY—Golden Oil Co.'s J. D. Adrian 1, (Hallmark sur) sd for fuel 3500 ft.

Texas Panhandle Wildcats

CARSON COUNTY — American Ref. Co.'s Burnett 3, dr 2080 ft. J. Crosbie et al's Burnett 1, dr 2120 ft. Culbertson Bros. et al's V. B. Armstrong 1, dr 3160 ft. Danciger Oil & Ref. Co.'s Burnett 1, dr 3030 ft. Gates Oil Co.'s Burnett 1, lubricating off approximately 30 million feet gas, td 2960 ft. Gulf Production Co.'s Burnett 5, dr 240 ft; Burnett 6, dk; Burnett 7, material; Burnett 1-A, co 3090

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WOOD, AND BOLTED STEEL TANKS

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408-409 COMMERCE BUILDING
OKMULGEE, OKLA.

June 10,1924.

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Bartlesville Oklahoma.

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The installation consisted of one 500 barrel Vapor Pressure flow tank and a battery of 4-250 barrel Vapor Pressure stock tanks. These tanks have given entire satisfaction and have effected a great saving by eliminating evaporation losses and maintaining the gravity of the oil.

We also have in use on this lease one of your low pressuse gas burners,using gas from the flow tank to fire the boiler. This feature of the installation alone has saved us several thousand dollars as we formerly paid ten dollars per day for gas for this purpose.

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Yours very truly,

Cromwell Oil & Gas Co.
By John D. Sanford
John D.Sanford.

JDS/O

"This Installation Has Saved Us Several Thousand Dollars"

A facsimile copy of the letter received from the Cromwell Oil and Gas Co. and which is on file in our office.

THE Cromwell Oil and Gas Company whose J. M. O'Neal lease in the Cromwell pool, Oklahoma, is equipped with "Perfection Tanks exclusively" is only one of hundreds of customers that has found that Perfection installations save them thousands of dollars.
This company in its letter to us proves every important feature we claim for Perfection tanks.
Can you find a lease tank elsewhere that will act as a gas separator, provide you with lease fuel, stop evaporation, maintain the gravity of your crude and save you at the same time thousands of dollars?

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INC.
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ft. Marland Oil Co.'s Burnett 1, dr 2280 ft. Olson Bros. et al's Burnett 1, fsh 2500 ft. Premier Oil Corp.'s Burnett 1, sd 1300 ft. W. W. Silk et al's Burnett 3, second hole, sd 2070 ft. Skelly Oil Co.'s Burnett 2, dr 1610 ft. The Texas Co.'s Burnett 4, co 2970 ft; Burnett 5, dk; Mary C. Burnett 2, second hole, straightening hole, td 2100 ft.

COTTLE COUNTY—T. J. Woodley et al's A. Dulaney 1, fsh 2600 ft.

GRAY COUNTY—A. R. Anderson's C. W. Bradford 1, sd 500 ft. C. H. Clark et al's Coombs & Worley 1, dr 2000 ft. Danciger Oil & Ref. Co.'s J. B. Bowers 1, lcn. Frank Dillard's John Henry 1, dr 2800 ft. W. H. Holmes' J. S. Morse 2, dr 2300 ft, show of gas. Wilcox Oil & Gas Co.'s J. H. Wilson 1, (rotary) sd 3520 ft.

HUTCHINSON COUNTY — Amarillo Oil Co.'s L. Bivens 2-B, dr 2550 ft, approximately 45 million ft gas. R. G. Barunm et al's Johnson 1, sd 2860 ft. Dixon Creek Oil Co.'s H. C. Smith 1, dr 1305 ft. Douglass Oil Co.'s J. A. Whittenberg 1, wtg on cas 2050 ft. Gulf Production Co.'s E. Cockrell 1, dr 3220 ft, show of oil. Prairie Oil & Gas Co.'s Diana Shaw 1, set cas 1940 ft. Twin Six Oil Co.'s W. L. Kingland 1, dr 2800 ft. Western Enterprise Oil & Gas Co.'s Smith-Capers 1, dr 3027 ft. J. W. Wilson et al's Whittenberg 1, fsh tools, bldg tanks, td 2910 ft.

KING COUNTY—W. G. Trammell et al's Spikes 1, rigged up.

MOORE COUNTY — Amarillo Oil Co.'s Masterson 1, second hole, dr 1000 ft.

POTTER COUNTY—Amarillo Oil Co.'s L. Bivens 3-A, lcn; W. H. Bush 1, cemt cas 2960 ft; J. C. Warrick 1, dr 2100 ft.

ROBERTS COUNTY — Phil Engle et al's Mrs. Ledrick & Sons 1, sd 1730 ft.

WHEELER COUNTY — Mid-Continent Oil Oil Synd.'s Ember 1, collapsed cas 500 ft. W. D. Shedden et al's B. F. Westmoreland 1, co 480 ft. Union Petroleum & Supply Co.'s O. T. Nicholson 1, sd 1500 ft. J. Whittington's Williams & Laycock 2, dr 1610 ft.

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North Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Montague County—		
Mascho Oil Co. J. L. Howard 1....	*	3650
Throckmorton County—		
Adams et al Polk Co. School Land 1	*	1450

DRILLING REPORT

BAYLOR COUNTY — Batchelder & King's E. S. Wallace 1, sd 100 ft. Crittenden et al's Hawkins 1, dr 2015 ft. Dallas Oil Co.'s Shawver Bros. 1, sd 1850 ft. C. B. Jetter et al's F. Gatzki 1, sd 500 ft. Lehman et al's Shawver Bros. 1, fsh 820 ft. Magnolia Petroleum Co.'s W. H. Portwood 2, dr 960 ft. D. H. Moore et al's H. H. Fancer 1, sd, estimated 2 million ft gas, td 980 ft. Nelson et al's J. Sykora 1, dr 1500 ft. Richardson Bros. et al's Wallace Est. 1, sd 220 ft.

CLAY COUNTY—Atlantic City Prod. Co.'s Scaling 1, sd 2890 ft. J. T. Cumley's N. C. Camp 1, sd 1802 ft. L. R. Dixon et al's R. H. Godfrey 2, spd and sd. E. C. D'Yarmitt's Scott 2, dr 500 ft. Knox Finley Dev. Co.'s Scott 4, dr 700 ft. Lone Star Gas Co.'s Lockridge 2, bailing, sand 1515-22 ft. Morris & D'Yarmitt's J. Stephenson 1, sd 1260 ft. J. O'Neil's O. A. Ross 1, dr 2100 ft. Piedmont Oil Co.'s Dean 1, sd 1210 ft. Shelton Oil Co.'s H. Boddy 1, dr up ur lugs, td 1370 ft. Somers & Nantz's Mary C. Parker 1, sd 1000 ft.

COOKE COUNTY — Big Indian Oil Co.'s W. B. Davis 1, sd storage 3525 ft.

DENTON COUNTY—Arbuckle Asphalt & Pet. Co.'s K. Fonteberry 1, sd 500 ft.

GARZA COUNTY—B. V. Blackwell et al's J.M. Boren -, co after shot of 120 qts 2415-50 ft. Union Pet. Corp.'s C. C. Connell 1, sd 750 ft.

GRAYSON COUNTY—W. R. Shankle et al's J. Marshall 1, second hole, sd 1100 ft.

KNOX COUNTY—Brazos Bend Oil Co.'s J. E. Clark 1, sd 2020 ft. Evans et al's Ella Lawson 1, sd 765 ft.

MONTAGUE COUNTY — Guaranty Fund Oil Co.'s E. A. Jordan 1, dd, fsh 3460 ft. Gulf Production Co.'s M. E. Benton 1, (rotary) dr 3185 ft. Petroleum Producers Co.'s C. H. Howard 1, dr 1000 ft; N. J. Howard 1, lcn; S. E. Howard 1, lcn. Texhoma Oil & Ref. Co.'s O. Cato 1, dr 2220 ft.

STONEWALL COUNTY — Elder Nance's Ward Estate 1, dr 1400 ft.

THROCKMORTON COUNTY — Clark et al's J. L. McCarson 1, dr 150 ft. Cragin et al's J. R. Burkhalter 1, sd 50 ft. Groves & Burton's Reynolds Cattle Co. 1, sd 672 ft. Hamilton et al's J. T. Odell 1, ur cas 1620 ft. C. F. Kelsey's W. D. Housley 1, sd 50 ft. King et al's A. P. Broyles 1, dr 825 ft. Bruce Larkin et al's R. E. Conger 1, preparing to dd, td 1430 ft; Mrs. T. S. Richards 1, dr gas sand 780-90 ft, estimated 1 million ft gas. McGee et al's J. T. Davis 1, dr 400 ft. McNeil et al's Travis Co. School Land 1, dk. McKnight et al's A. H. Housley 1, rigging up. Schimmell et al's R. W. Kelley 1, sd 100 ft. Shamrock Oil Co.'s Mrs. A. McKnight 1, dr 3250 ft. The Texas Co.'s A. L. Smythe 1, dr 275 ft. W. A. Whatley et al's Parrott 1, sd 800 ft.

WILBARGER COUNTY — American Ref. Co.'s W. T. Waggoner 1, dk. Barker & Hamilton's A. P. Morris 1, sd 305 ft. Barkley & Meadows' W. H. Stephens 1, dr 450 ft. Bridwell, Heydrick & O'Donohoe's S. A. Dill 2, dr 1735 ft. Bridwell & Heydrick's W. H. Stephens 2, dr out plug, estimated 10 million ft gas, sand 1245-60 ft; Stephens 3, dr 1500 ft; Stephens 4, dr 1730 ft; Stephens 5, dr 800 ft. Bridwell & Heydrick & T. P. Coal Company's W. T. Waggoner 1, rigged up. Burton & Ruff's W. T. Waggoner 1, dk. Dill Farm Oil Co.'s W. B. Dill 1, dr 2250 ft. Dumas & Ellis' W. H. Stephens 1, sd 1360 ft. Electra Gulf Oil Co.'s M. Ditto 1, rigging up. B. Harrell et al's W. T. Waggoner 1, rigging up. Hart et al's Smith 1, sd 2100 ft. Humble Oil & Ref. Co.'s R. L. Castlebury 1, dr 100 ft; W. T. Waggoner 1, dk. C. F. Kolp's W. T. Waggoner 1, dr 1850 ft. J. B. Levy et al's D. Wheeler 1, dr 240 ft; W. T. Waggoner 1, spd. Little Oil Co.'s J. T. Youngblood 1, dr 460 ft. McCamey et al's G. W. Richardson 1, bailing 2025-35 ft. Ed Mulligan et al's W. T. Waggoner 1, rigging up. Murchison & Pigg's Davis 1, sd 1025 ft. Mutual Oil Co.'s C. Zipperle 1, rigged up. Noble Oil Co.'s W. T. Waggoner 1, dr 2030 ft. Prince Bros.' C. Zipperle 1, dr 1980 ft. Ray & Massey's W. B. Dill 1, sd 2075 ft; D. Bond et al 2, dr 1060 ft; D. Bond et al 3, dr 400 ft; D. Bond et al 4, dk. W. J. Sheldon et al's W. J. Sheldon 1, dr 1720 ft. F. S. Skinner's Fred Streit 1, rigged up. South Vernon Oil Co.'s W. H. Stephens 4, dr 1610 ft; W. H. Stephens 5, dr 1620 ft; Stephens 6, rigging up; Stephens 7, rigging up; Stephens 8, rigging up; Stephens 9, dk. Staley & Wynne's W. T. Waggoner 1, dr 900 ft; W. H. Stephens 1, dk. Texas Oklahoma Oil & Ref. Co.'s J. Bowers 1, dr 1325 ft. The Texas Co.'s R. L. Castlebury 1, lease B. bldg dk. R. M. Waggoner & Winnipeg Oil Co.'s Bond et al 1, dr 1010 ft. Wells & Guiberson's W. T. Waggoner 2, dr 1360 ft. Winnipeg Oil Co.'s D. Bond et al 3, dr 1610 ft; Bond et al 4, rigging up. G. C. Wood et al's A. Streit 1, dk.

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P. O. Box 1307, Houston, Texas

San Antonio District Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Caldwell County—		
Beaver Oil Co.'s No. 2.....	200	....
Webb County—		
Magnolia Oil Co.'s Ochoa 13.....	50	....
Morgan-Gibble's No. 2	¶20	....
Cole Pet. Co.'s Cuellar 5.....	¶60	....

DRILLING REPORT

ATASCOSA COUNTY—DeLange-Eiser Co.'s Tom 2, dr 3150 ft; reported showing oil and gas. Tipps Oil Co.'s No. 1, set surface casing.

BEXAR COUNTY—Aviators' Swearingen 1, dk. F. B. Slick's No. 1, dr. White & Hampton's Swearington 1, dr.

DUVAL COUNTY — Co-Operative Drilling Co.'s Dinn 1, sd 2070 ft. Mesquite Oil Co.'s No. 1, setting liner and preparing to test sand

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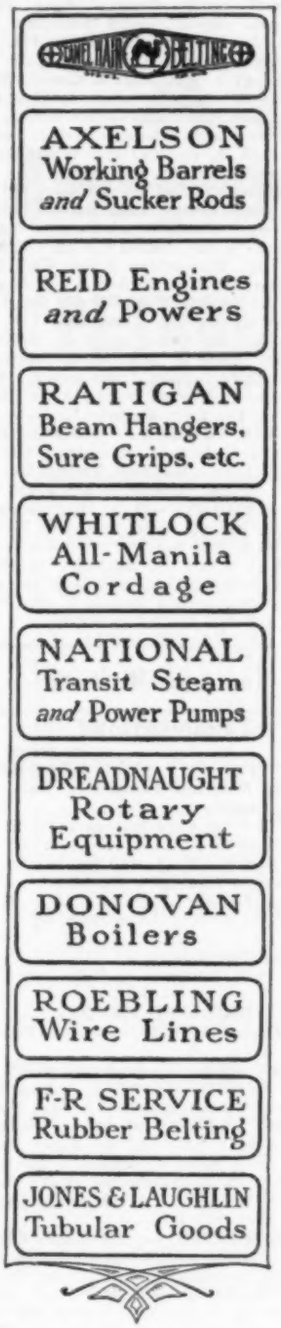

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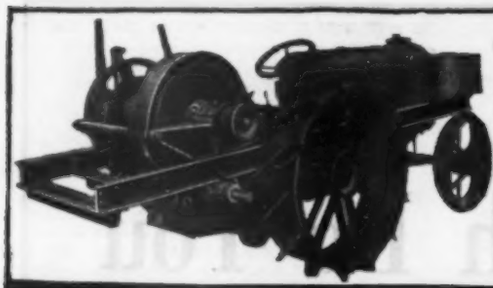

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GOULDS

at 2153 ft. Hill-Pierce Corp.'s Martinez 1, dr. Cole Pet. Co.'s No. 5, dr below 1655 ft; 6, dr below 1688 ft; 7, lcn.

GUADALUPE COUNTY — J. K. Hughes Dev. Co.'s Allen 20, no report. United North & South Oil Co.'s August Glenwinkle 1, rigging up; Baker 22, setting 6⅝-inch casing; 25, setting 6⅝-inch casing. Allen Burman's Wade Battle 1, dr 1880 ft. Magnolia Pet. Co.'s Schubert 12, set 6⅝-inch casing; 13, dk. Sight et al's Springs 1, dr. Ross & Green's W. W. Pryor lease 1, dr 1700 ft. McClannahan's Winkle 1, trying to pull 6⅝-inch casing. Pittman & Billingsley's Thomas 1, dk. Jennings et al's Lynch 1, dr 2040 ft. Walhunda Pet. Co.'s Smith 1, dr 2075 ft.

JIM HOGG COUNTY — Simms Oil Co.'s Wood 1, sur. 84, dr. Texo Oil Co.'s No. 1, Sur. 256, dk. Henne-Winch-Farris's Martinez 4, dr 1400 ft; 5, dk. Laurel Oil Co.'s Palacious 2, sd 1833 ft. Plateau Oil & Gas Co.'s No. 1, Blk. 15, Sur. 26, lcn. Bailey et al's Martinez 1, rigging up. J. W. Pippin et al's No. 1, Sur. 51, dr below 1800 ft. Magnolia Pet. Co.'s Thompson 1, lcn. Weber Oil Co.'s Holbein 4, sd 2778 ft. Lang et al's No. 1, rigging up. Shasta Oil Co.'s Holbein 1, set casing. O. W. Killam's No. 1, Blk 16, Sur. 255, dr 1800 ft. Witherspoon Oil Co.'s Holbein 1, dk.

LIVE OAK COUNTY — Grubstake Investment Assn.'s Nichols 3, set casing. Glasco & Fallin's Tip 1, dr. Southern Natural Gas Co.'s No. 9, dr; 10, lcn. Coquet et al's Hicks 1, dr.

ZAPATA COUNTY—H. J. McMullen's Nos. 1, 2 and 3, Serapio Vela, lcns. R. K. Bateman et al's No. 1, Sur. 617, dr 1000 ft. Mirando Oil Co.'s No. 16, Sur. 307, sd 2020 ft. Killam Interests' No. 1, Sur. 307, set casing at 1664 ft. Hill et al's Haynes 1, dr. Panuco Prod. Co.'s Vela 1, dr below 400 ft.

Louisiana Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Bossier Parish—		
Atlantic Oil Prod. Co.'s Bodcau Lbr. Co. 1, 24-23-12	*	2716
Caddo Parish—		
Caddo-Western Gas Co.'s Gardner-Blades 1, 2-16-15	*	2865
Gulf Ref. Co.'s Ferry Lake 216, 14-20-15	*	4525
Claiborne Parish—		
Gulf Ref. Co.'s Palmer 1, 35-23-6	*	3340

DRILLING REPORT

BIENVILLE PARISH—Roxana Pet. Co.'s Bryan 1, 30-17-6, dk.

BOSSIER PARISH—Armistead et al's Bernstein 1, 11-20-13, sd 1180 ft. Atlantic Oil Prod. Co.'s Bodcau 2, 24-23-12, rig. Coker et al's Rhodes 1, 31-21-11, dk tmbrs. Skannal et al's McDade 2, 10-17-12, set 6-inch 2440 ft. Standard Drlg. Synd.'s Johnson 1, 18-18-11, to resume dr 1080 ft. Wetherbee et al's Bolinger 1, 31-23-11, dr 1925 ft. Webb et al's Catlett 1, 27-19-11, abn 1100 ft.

CADDO PARISH — Ark-Caddo Oil Co.'s Nickerson 1, 30-19-15, sd 2450 ft. Brewer et al's Sharp 1, 10-18-16, rig. Crude Oil Co.'s Alexander-Ledbetter 1, 27-16-14, sd 3666 ft. Glassell et al's Florsheim 1, 9-17-16, dk. Lewis Oil Corp.'s C. M. L. 5, 24-23-15, rig. Richardson Oil Co.'s Bickham 1, 15-18-15, dr 1400 ft. Stith et al's Pitts 1, 11-23-16, dk. Waterman Drlg. & Dev. Co.'s Bryson 1, 18-17-16, lcn; Waterman 2, 18-17-16, set 8-inch 926 ft.

CALDWELL PARISH—Culver et al's Culver 1, 21-14-4e, dr 3130 ft.

CLAIBORNE PARISH — Black O. & G. Co.'s Aubrey 1, 20-21-8, sd 1450 ft. Claiborne-Lincoln Synd.'s Fields 3, 22-19-5, dk. Collins & Woodley's Fortson 1, 28-21-5, dr 2210 ft. El Dorado Chief Oil Co.'s McElwee 1, 13-22-7, set 8-inch 2090 ft. Evans et al's Taylor 1, 5-19-5, dk. Pomeroy et al's Hurman 1, 34-20-6, dr 2445 ft.

DE SOTO PARISH — Daniels & Roscoe's Pollack 1, 36-11-24, set 6-inch 2390 ft. Tarver et al's Palmer 3, 3-11-14, co 1945 ft. Wright et al's Sutherland 2, 19-12-14, sd 2614 ft.

GRANT PARISH—Grant Parish Pet. Co.'s Ball 2, 1-7-1w, rig.

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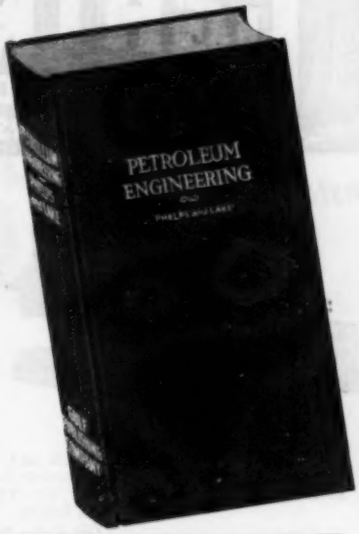

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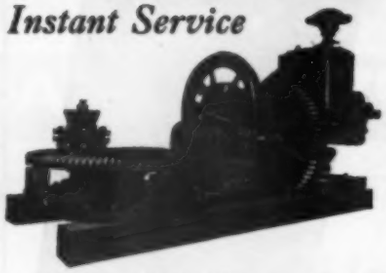

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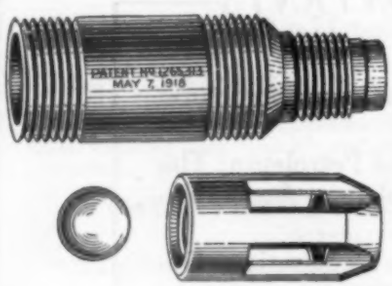

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Urania 2, 21-11-2e, sd 1790 ft. Columbia O. & G. Co.'s Urania Lumber 1, 22-10-2e, sd 200 ft. Gulf Ref. Co.'s Urania 1, 22-11-2e, dk; Urania A-1, 22-11-2e, sd 1022 ft. Stovall Drlg. Co.'s Louisiana-Central Lumber 2, 27-10-2e, sd 2000 ft. Urania Pet. Co.'s Urania 4, 20-10-2e, sd 1573 ft.

LINCOLN PARISH—Buckner et al's Barrett 1, 13-20-3w, setting 8-inch 1050 ft.

OUACHITA PARISH — Dickson & Frue's Goodwin 1, 24-18-2e, set 8-inch 2070 ft.

RAPIDES PARISH—Acme Drlg. Co.'s Barrett 1, 20-5n-1w, r 4517 ft. Pearson et al's Pearson 1, 7-4n-3w, testing 3054 ft.

RED RIVER PARISH—LeGrande et al's Fee 3, 2-14-12, sd 2440 ft.

SABINE PARISH—Emlet et al's Bowman-Hicks 4, 8-7-12, lcn.

UNION PARISH — Cargile et al's Heard, 1, 21-21-2w, sd 2409 ft. Jones & Walker's Feazel 1, 6-19-2e, dr 1600 ft. Roxana Pet. Co.'s Voss 1, 18-22-2w, lcn. Simms Oil Co.'s James 1, 16-22-3w, dk tmbrs.

WEBSTER PARISH—Arkansas Natural Gas Co.'s Frazier 1, 27-23-11, rig. Belchic & Laskey's P. W. L. Co. 5, 33-23-11, set 6-inch 2590 ft. Bethany O. & G. Co.'s Wiley 1, 1-22-10, set 6¼-inch 2565 ft. Haenlen et al's Roberts 1, 9-23-10, set 10-inch 508 ft. McDowell et al's Hortman 1, 15-20-10, sd 1650 ft. Palmer Corp.'s Miller 1, 29-21-10, ru to deepen, 3378 ft. S. S. Raymond et al's Coyle 1, 28-21-10, dr 2880 ft. The Texas Co.'s Tinsley 1, 35-23-10, dr 60 ft.

WINN PARISH — Galloway & Arrendale's McCarty 1, 5-12-1w, sd 500 ft.

Arkansas Wildcats

COMPLETIONS

Company, Well and Location		Initial Production Bbls.	Depth
Columbia County—			
Brown et al's Robinson 1, 23-18-23..	*		3034
Miller et al's Watts 1, 20-16-18.....	*		1890
Ouachita County—			
Crusader Oil Co.'s Snow 1, 23-13-16.	*		2510

DRILLING REPORT

CLARK COUNTY — Southern Drlg. Co.'s Burrows 1, 35-10-20, sd 714 ft.

COLUMBIA COUNTY — Hargis et al's Souter 1, 24-17-22, sd 35 ft. Heath Trust's Williams 1, 1-19-21, fsh 2175 ft. Johnson et al's Sailles 1, 18-17-22, sd 915 ft. Kemp et al's Emerson 1, 7-19-19, r 1800 ft. Moore et al's Fullenwilder 1, 12-17-22, rig. Phillips et al's Davis 1, 15-18-21, dr 2115 ft.

DALLAS COUNTY — Durr et al's Riggs-Matlock 1, 33-8-15, sd 2400 ft.

DREW COUNTY—Graves et al's Karnes 1, 20-14-6, sd 2386 ft. King & Wilson's Trotter 1, 12-13-6, sd 1250 ft. Rhodes et al's Harris 1, 5-13-8, fsh 2305 ft. Spooner et al's Meyer 1, 4-16-17, sd 50 ft.

GRANT COUNTY—Arnold & Hill's Meek 1, 8-4-11, dk. Haley & Evans' Pike 1, 8-6-11, sd 50 ft.

HEMPSTEAD COUNTY — Fullilove Drlg. Co.'s Ford 1, 31-14-23, dr 2340 ft. Hempstead Oil Co.'s Nichols 1, 17-11-25, sd for cas 1980 ft.

LA FAYETTE COUNTY — Ken-Saw Pet. Co.'s Red River Valley Lumber 2, 3-20-24, dk.

LINCOLN COUNTY—Bennett et al's Jones 1, 33-10-6, dk. Cambrian et al's Fee 1, 3-9-8, dr 1600 ft.

LITTLE RIVER COUNTY—Gaines et al's Thomas 1, 15-13-29, dr 3600 ft. Grote et al's Allen 1, 2-13-29, sd 3000 ft. Johnson et al's Hawkins 1, 10-11-31, sd 1350 ft.

MILLER COUNTY — D. Norton et al's Thomas 1, 12-20-28, lcn.

NEVADA COUNTY — Kan-Ark Oil Co.'s Honea 1, 12-13-21, sd 1840 ft. Ouachita Valley Oil Co.'s Phillips 1, 30-14-20, dk. Prescott Oil Co.'s Henry 3, 10-12-20, sd 1000 ft. Zingg et al's Groves 1, 22-10-23, dr 750 ft.

OUACHITA COUNTY — Bray & Hawthorne's Copenhagen 1, 13-14-17, fsh 2142 ft. Morgan & Gaughan's Morgan 1, 3-15-19, set 10-inch 42 ft. Dee et al's Criner 1, 21-15-19, dk. Reynolds & Thompson's Graves 1, 16-14-18, dk.

UNION COUNTY—Berry et al's Union S. M. 1, 14-19-11, sd 960 ft. Harrel Trust's Teele 1, 11-19-12, sd 3177 ft. O'Brien et al's Fee C-1, 13-19-17, rig. Traffic Oil Co.'s Goodwin 1, 20-16-14, sd 3026 ft.

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Kansas Wildcats

BARBER COUNTY—R. B. Brown's No. 1, NWc SW NE 33-30-14w, running liner at 3720 ft.

BARTON COUNTY—Cheyenne Oil Co.'s Sooy 1, SWc SW 27-18-12w, sd 3525 ft. Haynes et al's No. 1, NWc 31-12-12w, dr 1980 ft. Mountain States Oil & Gas Co.'s No. 1, SEc NE 22-18-13w, dr 3470 ft. Jasper & Beschka's Schauf 1, SEc NW 11-16-12w, sd 3413 ft. Huffine et al's Smith 1, C SE SW 21-19-12w, spudding 100 ft.

CLARK COUNTY—Watcham O. & G. Co.'s No. 1 Morrison, SEc NE NE 2-22-21w, set casing 4918 ft.

COFFEY COUNTY—Sunbeam Pet. Co.'s Andrew 1, NWc NE 30-20-15, rig. Manhattan Oil Co.'s Elliott 1, NWc SW 14-33-13, sd 350 ft. Braden Bros.' Beyer 1, SEc NW 13-22-13, rig.

CLOUD COUNTY—Livingston et al's Murdock 1, NEc 7-6-4w, sd 365 ft.

GEARY COUNTY—Liberty-Texas Oil Co.'s Wright 1, NEc 9-12-6, sd 750 ft; Foster 1, NEc SW 3-12-6, sd 2000 ft.

GOVE COUNTY—Keyes Bros. & Marine's Bowman 1, NWc SW 23-13-26w, lcn.

GRAHAM COUNTY—Keyes Bros. & Marine's Taxton 1, SEc NW 23-8-24w, dr 1400 ft.

FINNEY COUNTY—Garden City O. & G. Co.'s Wann 1, SEc SE 36-21-30, sd 2890 ft.

JEFFERSON COUNTY—Northern Counties' Edwards 1, SEc NW NW 13-8-19, sd 3405 ft.

KINGMAN COUNTY—Hale et al's Graber 1, SWc NW 34-27-7, sd 2543 ft.

LINCOLN COUNTY—Berry & Rosenthal's Lambert 1, C NW 31-12-10w, set casing 3175 ft. Amerada Pet. Corp.'s Crawford 1, NEc SW SE 16-11-7w, casing parted 2727 ft. Equity Oil Co.'s Jellison 1, NWc SE 19-13-9w, sd 2700 ft. Scott & Collins' Stone 1, SEc SW NE 19-11-6w, fighting cave at 500 ft.

NEMAHA COUNTY—Nemaha O. & G. Co.'s Meyers 1, NWc 19-3-11, sd 325 ft.

OSAGE COUNTY — Rodgers & Bittle's Bertha 1, SEc NW 22-17-16, lcn. Mul-Vit Dev. Co.'s Neil 1, NEc NW SW NE 8-17-17, sd 2735 ft. Baker et al's No. 1, C SE SE 3-10-14, sd 260 ft.

POTTAWATOMIE COUNTY—Crawford et al's Stewart 1, C E L SE SE SE 17-9-12, rig; Greishabert 1, SWc SE SE SW 13-9-18, rig; St. Mary 1, SWc 11-1-12, sd 2290 ft.

RICE COUNTY—Emerson Carey's Bush 1, NEc 7-20-6w, sd 3565 ft. Stamey et al's Barnes 1, SEc NE 21-20-6w, set casing 2950 ft. Jasper & Beschka's Walker 1, SWc NE 10-18-6w, sd 1750 ft.

RILEY COUNTY—Pawnee Oil Co.'s Marks 1, SEc NE NW 26-10-6, sd 1700 ft.

ROOKS COUNTY—Keyes Pet. Co.'s Sandon 1, NWc SW SE 7-8-20w, spudded, sd.

RUSSELL COUNTY—P. & R. Corp.'s Haise 1, NWc SE 24-12-15w, landed 5-inch casing 3635 ft. Pomeroy et al's Cooper 1, SEc 33-12-11w, sd 2000 ft. Alcorn Oil Co.'s Seller 1, SEc 36-15-12w, dr 3165 ft.

SEWARD COUNTY—C. T. Dev. Co.'s Woods 1, NWc NE 34-34-34, sd 700 ft. Seward O. & G. Co.'s Selsey 1, NEc NW 2-33-33, sd 2427 ft.

SALINE COUNTY—Thrall et al's No. 1, SEc NE NW 15-15-4w, sd 1010 ft.

TREGO COUNTY—Keyes Pet. Co.'s Walsh 1, NWc SE 5-11-25w, sd 1450 ft; Walsh 2, SWc NE SW 5-11-25w, sd 1550 ft; Davis 1, NEc SW 16-11-24w, sd 3030 ft.

WABAUNSEE COUNTY—Williams et al's No. 1, NEc SW 9-5-5, sd 3600 ft.

WOODSON COUNTY—Equity Oil Co.'s No. 1 Soloman, SWc NE NW 30-26-17, sd 3340 ft. Herman & Oghisby's Lauber 1, SWc 4-26-14, sd 850 ft. Skelly Oil Co.'s Rhea 1, C W L SE SW 13-24-15, machine.

Oklahoma Wildcats

ALFALFA COUNTY—McGuinnis & Ward's Watts 1, C NE SW 21-27-10w, sd 3240 ft. Armstrong, Henley & Piffles' Turnbull 1, C NW SE NW 25-24-11w, dr 905 ft.

ATOKA COUNTY—McPhearson et al's Wild 1, SWc NW 7-2-9, set casing 4323 ft. Henson et al's Dabney 1, C SE NW 17-4-11, rebuilding rig, td 2260 ft. J. P. Torrance et al's Fee 1, SWc NE 1-2-9, sd 2235 ft, hfw. Wapanuka Dev. Co.'s Underwood 1, C W L SE SE 28-2-9, sd 1343 ft.

BLAINE COUNTY—Meyers et al's Chronister 1, SEc NW NW NE 7-18-15w, sd 965 ft. Thompson's Dickerman 1, C SE SE SE 26-15-

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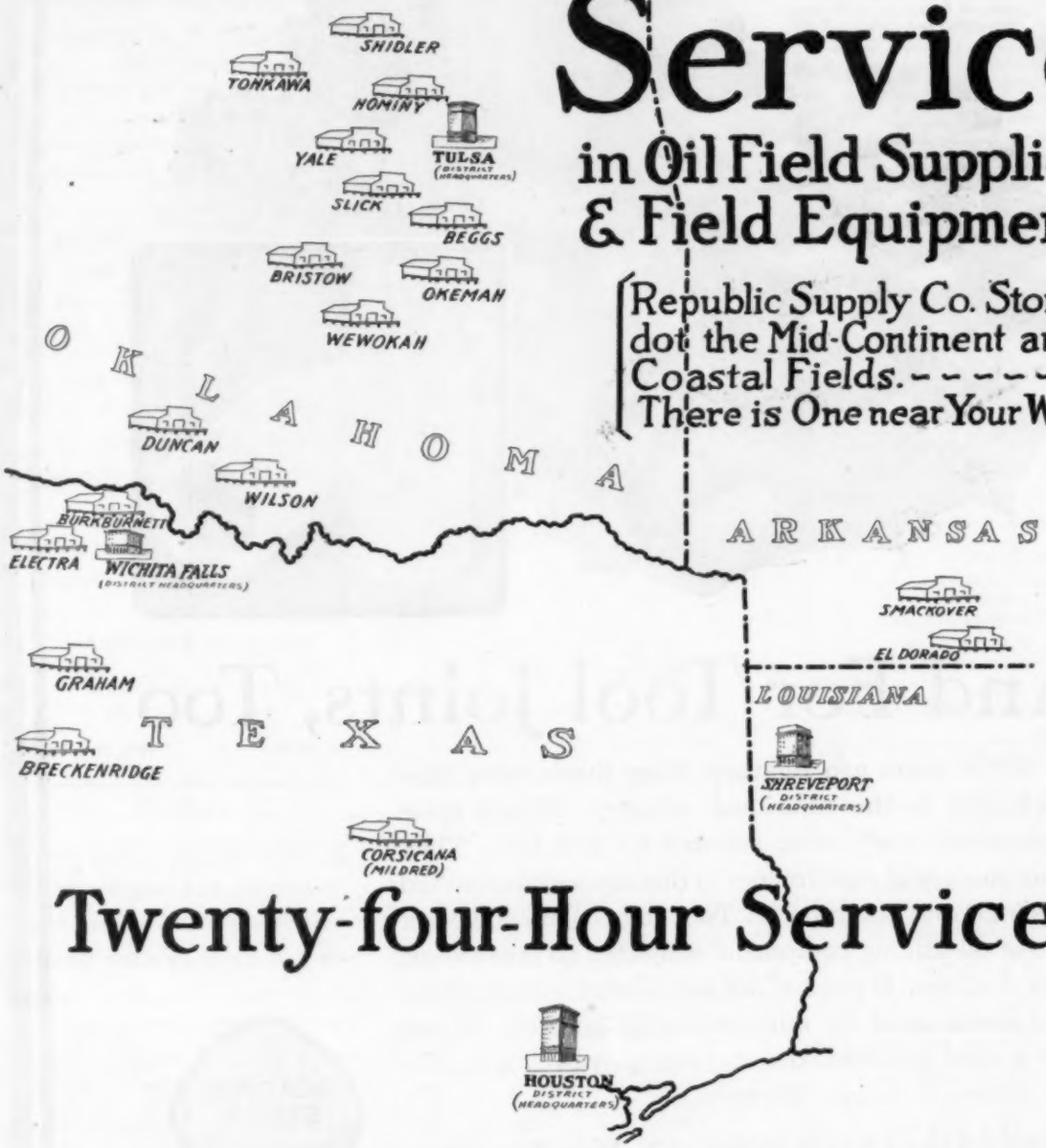

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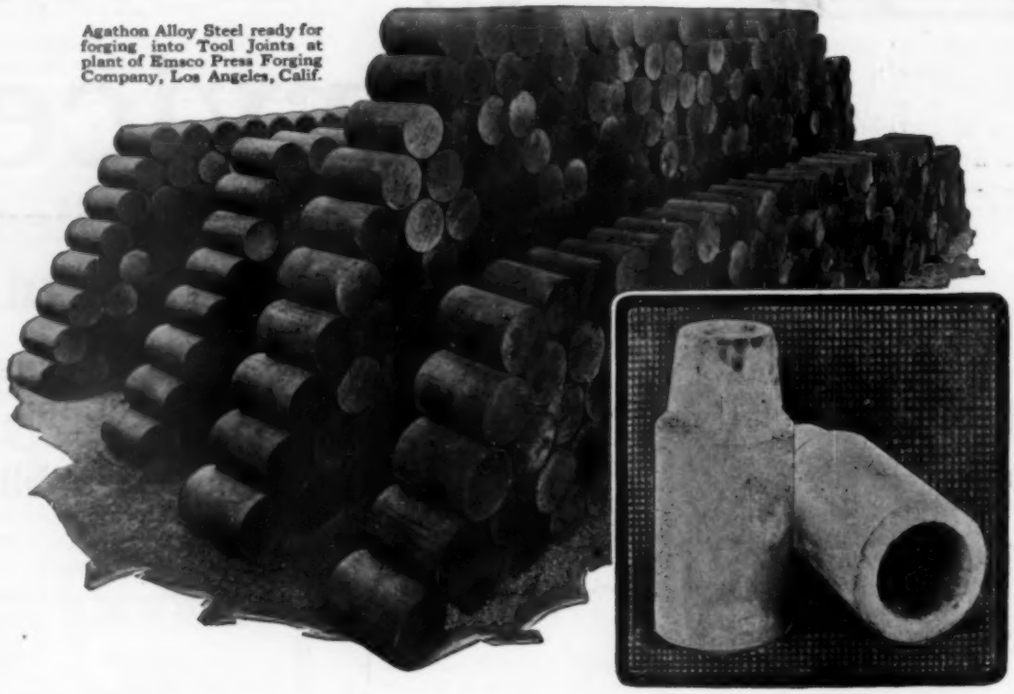

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12w, sd 3213 ft. Okomo Oil Co.'s Ekelman 1, SWc 21-13-10w, sd 2610 ft.

BRYAN COUNTY—Alexander's Hampton 1, SEc NE 26-7-11, sd 1400 ft.

CANADIAN COUNTY — Thos. Revelle's Dawson 1, SEc 34-13-9w, 2845 ft. Carroll et al's Setter 1, SEc 2-13-8w, sd 110 ft.

CLEVELAND COUNTY—Carr Oil Co.'s Holland 1, NEc SE 31-10-4, sd 2620 ft.

CUSTER COUNTY—Hoover Oil Co.'s No. 1, NWc SE 17-13-14w, sd 2510 ft. Magnolia Pet. Co.'s Cutfinger 1, NWc SE 17-13-14w, fsh 3685 ft.

COAL COUNTY—Bearman et al's Payte 1, SWc NW NE 32-2-9, sd 2780 ft.

GRANT COUNTY—Embry et al's Edwards 1, C SE SE NW 20-26-4w, sd 1000 ft. Midwest & Gulf's Moon 1, NEc NW 8-27-8w, sd 2490 ft. Phillips Pet. Co.'s Ridings 1, NEc SE NW 29-29-4w, cementing 4667 ft. Frank Travis et al's Fuss 1, SWc NW NW 3-27-4w, sd 1020 ft.

GREER COUNTY—Neal et al's Johnson 1, SEc NE NW 3-7-22w, dr 1245 ft. Boss & Terrill's Van Victor 1, C SW SW 4-3-22w, sd 2150 ft.

HUGHES COUNTY—Mathers & Skelly's McClain 1, C SW SW 4-5-11, reaming 3026 ft. Dixie Oil Co.'s Irvine 1, SW NW SE SE 18-8-10, dr 3040 ft.

JEFFERSON COUNTY—Connell Oil Co.'s Anderson 1, SEc NE 31-4-8w, reaming 1282 ft. Landis et al's Standfield 1, SEc 33-7-6w, dr 1740 ft. Roy Johnson's Mullen 1, NEc NW 9-4-4w, dr 2825 ft. Barker et al's Major 1, C SE SW 34-5-6w, spudded and sd. Godley Oil Co.'s Woodworth 1, C NE NW 36-5-4w, sd 495 ft. Lugg et al's No. 1, C SE NW NE 3-7-7w, dr 2470 ft.

JOHNSON COUNTY—Washita Oil & Gas Co.'s Trootes 1, C SE SE 7-4-4, sd 2180 ft. United "S" Oil Co.'s Hodlen 1, NWc SW NW 36-5-6, sd 2330 ft.

KAY COUNTY—Day Oil Co.'s Vandatta 1, SWc NW 8-26-2w, sd 2835 ft.

KIOWA COUNTY—Connor et al's No. 2, NEc NW NW 34-7-16w, reaming 925 ft. Aubyme Oil Co.'s No. 1, SWc NE 3-7-17w, sd 2135 ft. Alcorn Oil Co.'s No. 1, NEc SE SE SW 13-7-16w, sd 1308 ft.

LINCOLN COUNTY—Sun Ray Oil Co.'s Gallagher 1, C N L SE SE 18-13-5, sd 3825 ft. P. & R. Corp.'s Hainzig 1, SWc NW SW 14-13-6, 2500 ft. Douglas Oil Co.'s Ewing 1, NWc 7-13-3, sd 2965 ft. J. C. Cook's Richardson 1, SWc NW SW 8-12-5, dr 2150 ft. Eugene Costa's Dodrill 1, SEc NW 26-12-2, dr 2210 ft. Wilcox Oil & Gas Co.'s Smith 1, SEc SW NE 12-12-3, spudded.

LOGAN COUNTY—Buford-Brim Oil Co.'s Newman 1, NWc NW 32-19-3w, sd 2345 ft. Oklahoma Drilling Co.'s Johnson 1, SEc SW 36-15-2w, sd 1716 ft. Franklin Oil Assn.'s Moore 1, NWc SE SE 35-17-4w, dr 2090 ft. McMunn & Nixon's Fields 1, SWc NE SE 35-17-4w, rig. Haley & Pioneer Pet. Co.'s Quair 1, SWc SE 33-18-3w, rig rebuilt. Pluto Oil & Gas Co.'s Lair 1, C S L N½ SE 28-16-1w, fsh 750 ft. Gilliland Oil Co.'s Ohm 1, C NW 5-19-2w, r 2810 ft. Magnolia Pet. Co.'s Pritchard 1, NWc 23-15-1s, r 2775 ft.

LOVE COUNTY—Driller Syndicate Oil Co.'s Wilson 1, NWc SE 11-7-2w, sd 2830 ft. Simms Oil Co.'s Starritt 1, SEc NE SE NE 26-6-3w, dr 2255 ft.

MAJOR COUNTY—Texas Prod. Oil Co.'s Basin 1, SWc 6-22-14w, spudded and sd. Bradstreet Oil Co.'s Ratcliffe 1, C SW 9-22-9w, dr 3054 ft. Frantz & Slick's Gray 1, C NW 36-21-11w, sd 1000 ft.

PONTOTOC COUNTY—Harper et al's Dener 1, NWc SE SE 19-6-7, dr 2835 ft. Smith et al's Norris 1, SWc SE 34-4-6, sd 2430 ft. Riverside Oil Co.'s McFarland 1, NWc NE NW 4-5-5, sd 650 ft. C. J. Wrightsman's Floyd 1, SWc NW NE 24-4-4, dr 2600 ft. Galloway et al's Hays 1, NEc SE NW SW 13-3-6, sd 1160 ft. Craig et al's Starritt 1, NWc NE 5-4-5, sd 600 ft. Brinson et al's Brown 1, SEc SW SE 32-5-5, dr 577 ft.

OKLAHOMA COUNTY — Firestone Oil Co.'s School 1, NWc SE 36-11-3, dr 4195 ft.

POTTAWATOMIE COUNTY—Ossie Oil Co.'s Howell 1, SWc NE 17-10-2, dr 3040 ft. Davis Detrick's McGathey 1, SEc 10-6-2, sd 3850 ft. H. G. Guinnup et al's Floyd 1, SWc SE 12-11-3, sd 3670 ft. North American Oil Co.'s Madgett 1, NWc 25-10-4, sd 460 ft. Maud Oil Products Co.'s Yinson 1, NEc SW 18-7-4, sd 2935 ft. McMann Oil Co.'s Neghan 1, SWc NW 19-7-4, sd 100 ft. Day Oil Co.'s Bell 1, SEc NW NE 9-5-3, dr 3637 ft. Halmond Osmond et al's Fiddler 1, SEc NW 4-5-5, sd 545 ft.

ROGER MILLS COUNTY — Twin Hills Oil Co.'s McClure 1, NWc 15-16-26w, sd 3600 ft. Trio Oil Co.'s No. 1, SEc NW SW 3-13-26w, sd 3060 ft.

SEMINOLE COUNTY—Maxwell et al's Charty 1, C NE NW 33-6-6, sd 2100 ft. Link Oil Co.'s Carolina 1, C SE NW 14-6-7, sd 2840 ft. T. B. Slick's Sanny 1, 19-6-7, co 3440 ft. Wm. McDougall's Dindy 1, C SW SW 30-6-7, sd 3350 ft. R. F. Garland's Farlin 1, C NE NW 6-6-18w, fsh 1390 ft.

WASHITA COUNTY—McCoy et al's Praeters 1, C SW SW NE 9-8-15w, sd 3115 ft.

WOODS COUNTY—Victor Oil Co.'s Van Buskirk 1, SWc SE 10-25-15w, sd 960 ft.

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A light weight tubing tong which is meeting with much favor in fields where it has been introduced is among the oil field specialties now being manufactured by the Wilson Oil Tools Corporation.

The same spring-latch principle used in larger Wilson tongs, is a feature of this smaller design. In addition the small tong has a spring in the end of the lever that actuates one of the jaws so that when the tong is placed on the tubing it will not slide downward but will remain in place.

Only one die is used, and this is made so that after the edge has become dulled from long usage it can be turned around and each of the four corners used in succession, thereby prolonging the life of the die practically four times.

Both tubing and coupling can be tonged by one set of tongs either to screw the coupling and tubing together or to unscrew them. The tongs have a two-step latch lug that permits changing the diameter so that it will fit both the tubing and the coupling without adjustment. Not only can the tongs be used for tubing, but for removing collars on pumps and pipe of various sizes. It can be also used for unscrewing collars to oil pumps, and in making necessary connections in attaching the pump to the tubing preparatory to lowering into the well.

Likewise there promises to be a demand for these tongs in pipe fitting. Instead of using the chain type of wrench for small sizes of pipe, these tongs can be used and can be operated much faster than the ordinary wrench as they can be quickly placed on the pipe and will grip the pipe without being held by the hand.

Further information will be furnished by Wilson Oil Tools Corporation, 2301 E. Vernon Avenue, Los Angles, California.

Wilson Light Weight Tubing Tongs

Wire Line Lubricator Adds To Life of Wire Lines

Actual experience has shown that the Bridgeport Wire Line Lubricator, when used from the top to the bottom of the hole, increases the life of the drilling line from 25 to 50 per cent, according to statements made by the company.

The lubricator is made in two halves hinged together, making it easy to clamp around and set in the top of the casing. Each half of the lubricator is hollow with a plug at the top for filling with the lubricant. The needle point valve operated by a thumb screw regulates the flow of oil on the line.

As the tools are raised and lowered in the hole the valve is opened and the oil allowed to feed freely on the line. While the drilling operation is going on the valve is closed somewhat so that the lubricant feeds less freely.

Two wooden liners extending through the entire length of the lubricator eliminate wear on the wire line as it passes through the lubricator. These liners are so constructed as to act as a cleaner for the wire line as it is pulled out of the hole. The lubricator requires no attention or handling whatever after being placed in position other than to be filled about once a day with oil.

When the tools are pulled from the hole, the lubricator rides the rope socket to the top of the derrick where it is out of the way so that it is unnecessary to take it off each time the tools are taken from the hole.

Bridgeport Wire Line Lubricator

The lubricator is made for each size of pipe from the 12½-inch to the 5 3/16-inch inclusive.

Literature and other information will be supplied by The Bridgeport Machine Company, Wichita, Kansas.

Becker Specialty Company Handles Frost Generator

Tulsa, Okla., Nov. 24.—The Becker Specialty Company has succeeded the Frost Generator Company as Oklahoma representatives for the Frost vertical turbine generator manufactured by the R-F Electrical Manufacturing Company of Augusta, Kansas.

J. A. (Jack) Becker is in charge of the Becker Specialty Company which has offices at the intersection of Cheyenne and Seventh streets in Tulsa.

Manufacturer and Supply Dealer Notes

Gulf Crew Makes Record In Drilling at Spindle Top

Houston, Texas, Nov. 25.—Sinking four producing wells to an average depth of 915 feet in the short space of eight weeks was the feat accomplished not long ago by the Gulf Production Company's men at Spindle Top.

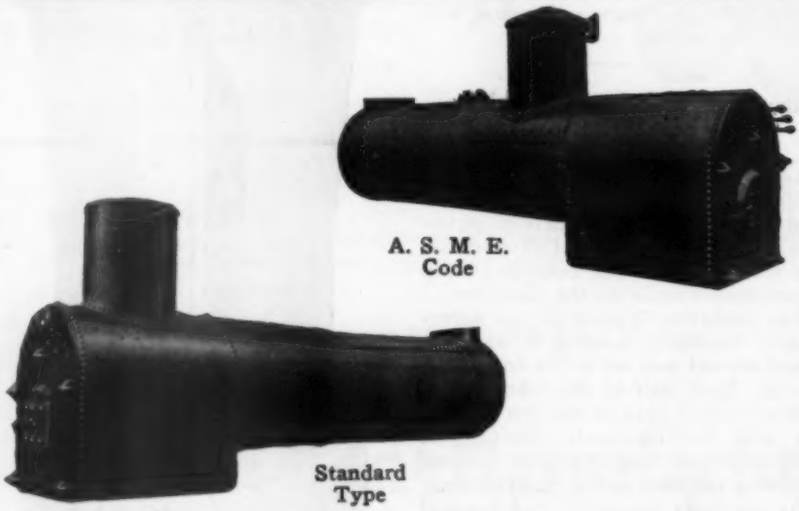
With high tension juice available, the power plant problem was solved by a 75 h.p. Western Electric motor stepped down with a Union Tool Reduction Gear. Neither the time allotted nor the money appropriated would allow the erection and subsequent tearing down of wooden rigs, so an 87-foot International Galvanized Steel Derrick, re-inforced for drilling was selected.

Thirteen days after the derrick was erected, the crew hit pay sand at 905 feet. The derrick with all machinery intact was put on rollers and skidded 750 feet to the location for a second well. This operation required exactly seven hours. At 9 A.M. the following day the rig was leveled up and the crew spudding in. Total cost of skidding the rig as shown by the driller's report to the production department amounted to $42.50.

The rig was skidded in a like manner to the third location, but on the fourth well the derrick had to be torn down and moved. This required about three days and cost $225.

Although it has drilled four producers, at high speed, the rig is still in condition and the driller says, "can do it all over again when the occasion arises."

Steel Derrick in place over Gladys 207, Spindle Top, Texas, after drilling three other wells



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BRODERICK & BASCOM WIRE ROPE

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Casper, Wyoming—Northwestern Supply Company.
Beaumont, Texas—Brooks Supply Company.
El Dorado, Kansas—Oil Field Specialties Supply Company.
Fort Worth, Texas—Longhart Supply Company, 608 1st National Bank Bldg.
Louisiana, Arkansas, and Houston, Texas—Petroleum Supply Company.

Baash-Ross Builds Plant For Working Over Equipment

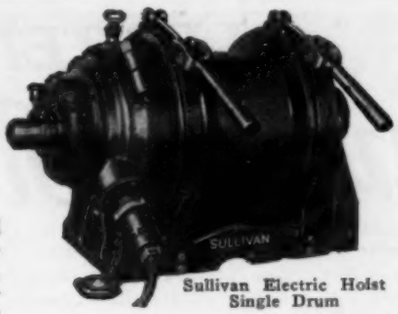
Los Angeles, Calif., Nov. 25.—"Renewed automobiles" have made a place for themselves in these United States, but it is a little out of the ordinary to read of "Renewed oil field equipment." Yet this new phase is coming into its own. Baash-Ross Tool Company of Los Angeles is just completing a fireproof machine shop 80 by 100 feet at its plant where oil field equipment will be renewed and resold for continued service.

At the rear of the new building can be seen an oil field boiler that looks like new and is ready for service once more. Old pipe is worked over, straightened and new threads added, ready for service again. Other pieces of equipment are to be similarly treated in this new Los Angeles plant, when the machinery has been installed.

Baash-Ross is also arranging for the early erection of an office building on its 5 acre tract in the industrial center. Within another year, it is expected that the entire tract will be covered with buildings.

C. A. McCollum, engineer in the field service department of the National Supply Company, Houston, Texas, has been confined to his home for several days on account of a minor operation. He is back at his desk this week.

A NEW ELECTRIC HOIST
(Portable)



Sullivan Electric Hoist
Single Drum

Sullivan engineers have designed a new portable hoist, electric motor driven. It is similar in power, size and adaptability to the Sullivan "Turbinair" Hoists which have become so popular, and both single and double drum models are available.

Sullivan Electric Hoists have 6½ H.P. motor, mounted in a tight casing **inside the drum.** Reduction gears and bearings are enclosed and splash oiled. Ball and roller bearings throughout.

You can hoist a ton vertically on single line, or pull a 50-ton car on level track. The double drum hoist is compact and easy to handle for two rope jobs such as boom derrick work or car spotting.

If you want to reduce your light hoisting and haulage costs, try these new electric units.

Electric Hoist Dimensions

	1 Drum	2 Drum
Length, inches	29	38
Width, inches	15	15
Height, inches	19¼	19¼
Drums, length, inches	8¼	6¼
Drums, diameter, inches	11⅛	11⅛
H. P.	6½	6½
Capacity, lbs.	2000*	2000*
Speed at Max. Load, ft. per Min.	110	110‡
Drum Rope Capacity, ft. each	500	250
Weight, pounds	450	780

* For Vertical lift.
‡ Tailrope drum, 160 ft.

Ask for Catalog 4276-E

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122 So. Michigan Ave., Chicago

Colonial
WELL BIT & JAR STEEL
The Beginning of Good Tools

NO TOOL can be better than the steel of which it is made. Good steel is the first essential. There is real satisfaction for you in tools made of "Colonial." The 20 year record of the Colonial Mill in producing this exceptional Well Bit and Jar Steel means much to the makers of oil country tools—it means even more to you who use these tools in the field. Colonial Steel in a tool is the first assurance of satisfactory service in the well.

Ask for tools made of Colonial Well Bit and Jar Steel. Their performance will be the evidence of what good Tool Steel can do.

Colonial Steel Company
Established 1901

Pittsburgh Boston New Haven New York Cleveland
Cincinnati Detroit Chicago St. Louis Denver
Salt Lake City Wallace, Idaho
Edw. L. Soule' Co., San Francisco

Economical

This famous pair by the dependability of their performance under specific conditions, make for certain economy. Try STEELEX where excessive sand is encountered — BRONZEX where alkali or lodestone are present.

Dependable

All good dealers carry them in stock

The
CHARLES N. HOUGH
Manufacturing Co.
Franklin, Penna.

Products that cut down your underground overhead

LETTERS OF Paul Peebles P.S.G.

mi deer cleopatry

well cleo hunny I am a far ways from yu in cleevland ohio whitch is a citty like huston but not quite so good if yu no what I meen. it is also like chicargo whitch is also on a lake whitch they call the grate lakes but yu can take it from me hunny that it aint nuthin so grate about them if yu will jest go out 2 the bay and look out 2 the gulf of mexico. I gess it is moar oil floatin on that than there is watter in these hear lakes but they are sattisfied with them & I gess it aint none of mi bizness.

well hunny I gess yu want 2 no aabout mi trip cummin up hear whitch I done just like I told yu I was goin 2 do. I always tell yu the truth about what I am goin 2 do. well I left huston in the nite and we all went 2 bed till we gotten 2 new orleens in the mornin & of corse it did not nuthin happen 2 be intrested in that I can tell yu about & neether was it ennything happenin in new orleens that day on account it was sunday so I jest loafed around till a trane cum in 2 go 2 chicargo & then it was beginnin 2 get moar interestinger. well hunny I did not no noboddy on the trane 2 talk 2 & I seen a girl on there who did not neether no noboddy 2 talk 2 & I thort I had better keep her from getting loansome whitch is the kind of a charytable man I am, only it was about time 2 eet dinner so I thort I had better let her stay loansum till after that. so I did & she did, only bi the time I gotten reddy 2 start 2 entertainin her well it was a old bird had alreddy beet me 2 it & had eveen tooken her in2 the dinin car 2 eat whitch was alrite with me & I was glad it happened like that on account I do not never like 2 mix in with no laddys on account of not bein intrested in none of them but yu hunny. but just like I sed I seen she was loansome on the start & I was sorry for her that a old gray hedded man beet me 2 her insted of her gittin 2 talk 2 me, whitch is her loss. & besides she was the onli 1 on the trane whitch did not hav a husban along with her.

well hunny when I gotten in2 chicargo it was snowin. Hunny yu aint never seen no snow so yu do not no what it is like, nor neether can I tell yu on account when I gotten out on the street 2 see it it blowed in mi eyes so I cood not even look over the wimmin whitch was around 2 sea how mutch better lookin yu are than them, hunny.

well hunny 2 keep a long story short I will pass over the few hours I spent in chicargo & tell yu about cummin on 2 cleevland. well the trane I cum on left in the middel of the nite which is a slick skeem us travlin men hav of beetin hotel bills bi givin the munny 2 the ralerodes insted of the hotel men. well I gotten 2 sleep pretty good that nite on account I was tired & was supposed 2 git 2 cleevland in the mornin at ate o'clock & I was goin 2 sleep just as long as I cood. well the nigger on the trane whitch carrys around the ladder for peepul 2 crawl in the upstares beds cum around befoar seven o'clock & says 2 me that it is time 2 get up because we was gittin in2 cleevland. well I had mi watch rite handy & seen what time it was & it made me so mad for him 2 be wakin me up a hour 2 erly that I was gittin reddy 2 hit him over the hed with sumthin & I was bawlin him out when the cornduckter cum along & told me it was neerly ate oclock & the trubbel with me was that I had not set mi watch with the eastern time. Hunny I bet yu did not no that it makes anny difrents where yu r what time it is, but it does.

well the convenshun whitch I cum 2 is just about over & it is a good thing because old nicklas has just about talked hisself out. I did not git 2 do much bizness hear on account I aint got no chanct bein a geeologist for a buntch of fillin stations whitch is all it is hear.

they shore did miss a good chanct bi not havin me to talk 2 the meetin whitch I felt shore they wood do. the fillin station peepul is all tryin 2 get thereselves het up over the propersishun of preducktion of oil & the transpertashun of crude. well hunny yu do not no nuthin about that yoreself whitch ort 2 make yu be a pretty good fillin stashun man if it was not yu are a woman.

what I was goin 2 prepose 2 them if they wood a let me talk was a good skeem I hav worked up for distributin gasleen for them along the lines they want 2 use pipe lines.

nicklas has got a ideer of makin the pipe line cos run oil for evryboddy what wants them 2 on account of them bein common carryers. well they aint so common hunny around these parts like they are in Texas, & tank truck wagons is mutch moar commoner. what I perpose for the marketers is that they make the tank trucks be common carryers & carry ennybodys gasleen for them for a small tariff. the way it would work wood be a truck wood be goin a certain way & in plase of evrybody havin stations on that rode sendin a truck well they will just git the truck whitch is goin 2 hawl it for them.

well hunny it is gittin late so I will tell yu about all this another time. mabe yu think I am lyin about it bein late, but yu no what I told yu about the time.

I will be back sum time & then I am goin 2 go 2 fort worth to the api meetin & mabe I will make them a speach.

yore lovin paul.

Sullivan Machinery Opens California Branch Office

Los Angeles, Calif., Nov. 24.—The Sullivan Machinery Company announces the establishment, in Los Angeles, of a branch office and warehouse, at 412 E. Third Street, with Benjamin P. Lane as local manager.

A complete stock of Sullivan air compressors, hammer drills, concrete breakers and air lift equipment will be carried, including spare parts.

By means of this new office and warehouse, the company hopes to provide much more prompt and satisfactory service for its customers in territory adjacent to Los Angeles.

Wichita Falls, Texas, Nov. 24.—The Painter-Bundy Tool Company, which was organized recently with a capital stock of $150,000, has acquired the W-R-B Tool Company's plant here and will continue to cater to oil field equipment repair work under the new name. New Machinery and equipment has been ordered to enlarge the output of the old W-R-B plant.

The Painter-Bundy Tool Company is preparing to introduce a new type of rotary bit known as the Painter's rotary bit and core drill, and is completing a plant in Fort Worth to manufacture this tool and other oil field specialties. M. A. Bundy is president of the new concern, and R. A. Painter is vice president and general manager.

Robert Y. Eden, field service man, National Supply Company, left Houston last week, for Springfield, Ohio, to take a special course of study in oil and gas engines. Mr. Eden will be in Springfield about two weeks.

Three "mud-hogs"— two of them "OILWELL."

Pumps — slush pumps — must work at all times under adverse conditions, and to successfully overcome these conditions, must possess the following features:

1. The flow of fluid must be steady.
2. The pumps must efficiently work against high pressures.
3. The pumps must handle large volumes of fluid of varying densities.
4. The design of the pumps must be simple and the parts durable, and easily accessible.
5. The pumps must be so proportioned as to be easily moved.
6. The fluid end or cylinder must be designed so that the liners can be easily removed for replacement or inserting one of a different diameter.

"OILWELL" Mud Hog and Giant Mud Hog Pumps are designed to work against high pressures and to handle thick mud laden fluid. The Mud Hog will take care of 500 lbs. working pressure and the Giant Mud Hog 1000 lbs. working pressure.

"OILWELL" Mud Hog" and "Giant Mud Hog" Pumps meet every one of these requirements more successfully than other pumps designed for the same purpose. The great demand for "OILWELL" Pumps" is sufficient proof that oil operators recognize this fact.

For a complete description and further information, write for Bulletin No. 46 or inquire at any of our 100 Branches.

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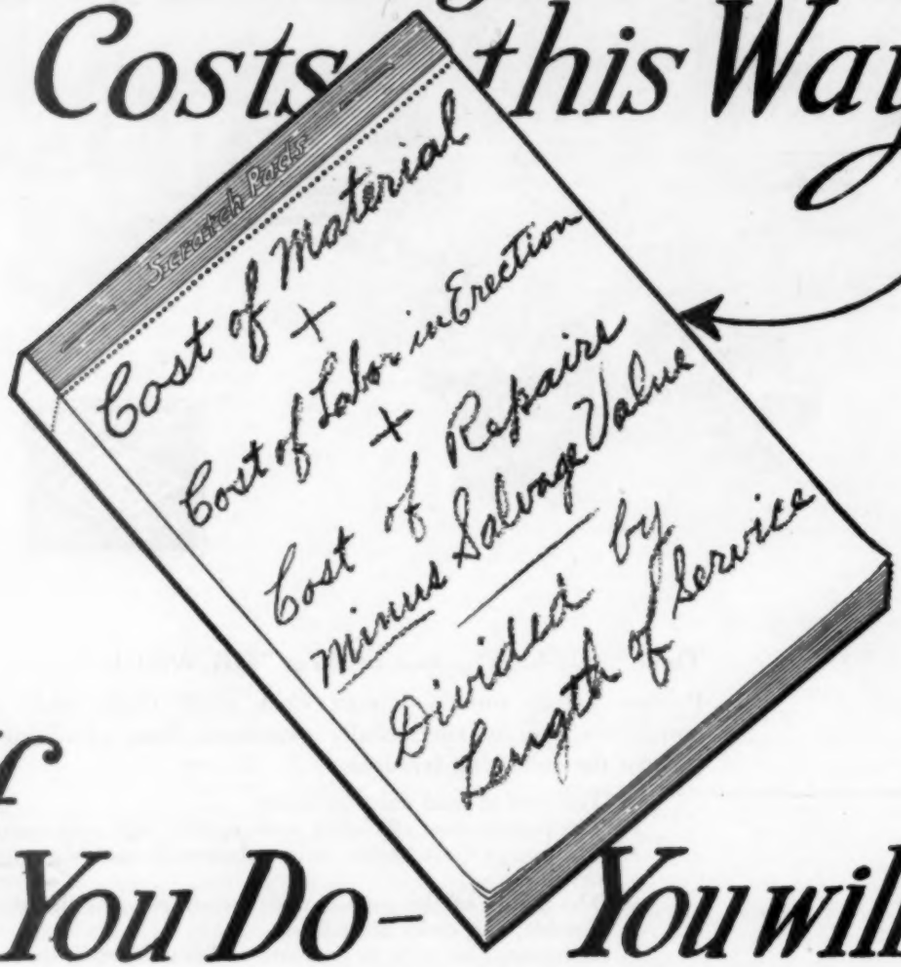
World's Largest Manufacturers of Oil Field Equipment

Say you saw it in The Oil Weekly

Do You Figure Housing Costs this Way?



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Cost the Least, Per Day of Service

LOW ERECTION COST—Crain Sectional Houses can be quickly assembled by unskilled labor.

LONG LIFE—Crain Sectional Houses are sturdily constructed of highest grade materials, to withstand hard usage and frequent moving.

LOW FIRST COST because of economical manufacture on a large scale.

FULL SALVAGE—Crain Sectional Houses can be easily knocked-down, moved, and re-assembled on the next job, thus yielding Full Salvage Value.

Crain Ready-Cut House Co.

Crain Sectional Houses (Portable) For Industrial Homes

Houston, Texas

Crain Ready-Cut Houses (Not Portable) For Permanent Homes

SQUEAKS from the BULL WHEEL

The young husband could eat no more of his wife's dinner.

"That's a pity", she said, "for if you don't I shall have to give it to the dog!"

"Yes, it is a pity—it's such a nice dog!"—Tit-Bits (London).

A Great Help

"I want a couple of pillow-cases."

"Yes, sir, what size?"

"I don't know, but I wear a seven hat."

Selling Talk

Ardent Wooer (a commercial traveler)—"My love for you, Winnie darling, surpasses anything else that can be offered in that particular line."

Why
Kill Your Wife?
Let Electricity Do It!
We'll Help!
Electric Supply & Fixture Co.
—Display adv. in the Ellensburg (Wash.) Evening Record.

New Words as Used

Jack was home for his holidays from college. One day he said to his mother: "May I tell you a narrative, mother?" The mother, not being used to hearing such big words, said: "What is a narrative, my boy?"

"A narrative is a tale," said Jack.

That night, when going to bed Jack said: "May I extinguish the light, mother?"

His mother asked: "What do you mean by saying extinguish?"

"Extinguish means put out," said Jack.

A few days later Jack's mother was giving a party at their home, and the dog walked in. Jack's mother raised her voice and said: "Jack, take that dog by the narrative and extinguish him."

Lawless Proceeding

The teacher was giving the class a lecture on "gravity".

"Now, children", she said, "it is the law of gravity that keeps us on this earth."

"But, please, teacher", inquired one small child, "how did we stick on before the law was passed?"

A Hurry Call

Farmer boy, age 40, wants position on small, slender widow's ranch, with matrimony in view. If in city call St. James hotel, room 342. Height 6 feet, dark hair and eyes, weight 160; in city this week, so better hurry. —Classified ad in Denver Post.

Diplomacy

Sue—"I can't help it if I'm not perfect. There's only been one perfect little girl."

Mother—"Oh, and who was that?"

Sue—"You, Mummy, when you was little."

Well Turned Out

"Did your last employer give you a reference?"

"Yes, but it doesn't seem to be any good."

"What did he say?"

"He said I was one of the best men his firm had ever turned out."

Ready for Anything

"Every time a man drinks bootleg liquor he becomes a lawbreaker."

"Of course," agreed Uncle Bill Bottletop. "But a man that drinks what they get around here must be kind o' desperate in the first place."

Small Girl (to mother overhauling furs in view of winter)—"Mother, what did moths eat before Adam and Eve wore clothes?"—Punch.

"Tilly, will you marry me?"

"Yas, Ole."

A long deadening silence falls. Finally it is broken.

"Vy don't you say something, Ole?"

"Vell, I tink Oi say too much already!"

The following news item appeared in a metropolitan newspaper recently: "Ikey Ikenstein accidentally drove his car into the parade of the Ancient Order of Hibernians. He would have been thirty-eight years old next October.—San Francisco Purchaser.

Plain Sewing for Scalp Repair

Surgeon—"I'll sew that scalp wound for you for $10.00."

Patient—"Gee, Doc! I just want plain sewing, not hemstitching and embroidery."

Out of the Final Contest

The old gentleman was a trifle bewildered at the elaborate wedding.

"Are you the groom?" he asked a melancholy looking man.

"No, sir," the young man replied. "I was eliminated in the preliminary try-outs."

Dignity in Dress

The school superintendent was lecturing his teaching staff on the dignity of their work and the decorum demanded of them in the matter of dress. Among other points he mentioned that they should not wear "teddies", that such custom was very undignified. His wife spent the whole evening calling the young lady teachers on the phone to tell them that what her husband meant to say was "middies."

Why She Shot Him

She had just returned from the barber shop, where she had exchanged her heavy tresses for a shingle.

"I simply could not stand the weight of all that hair on my head another day," she explained to her angry husband.

"I always thought your head was weak," was his only comment.

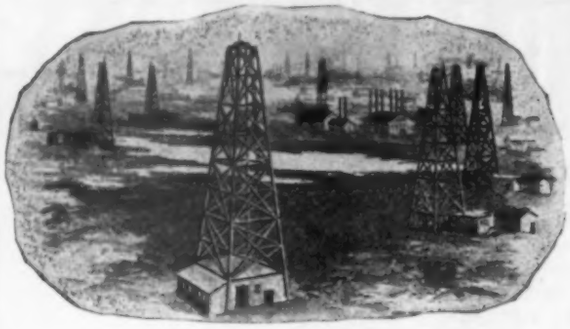
"What kind of a car you got?" asked one of the two sore-footed OIL WEEKLY newshounds, as they trudged behind a hard working tool pusher over at Sour Lake.

For answer he mentioned a car of light draft and perhaps less known than the Ford. Thereafter passed some complimentary remarks anent the good qualities of the car mentioned.

Then the garage door was opened and the two sore-footed ones blinked their eyes, for they saw just what the picture above revealed.

For those who do not know him, he is L. F. Barkley. And for those not acquainted with the car, it's a PierceArrow. Incidentally that's not the make he mentioned when the question was asked.

Barkley says the car will make the law's limit without any trouble. The natives around Sour Lake say it will make 150 miles an hour.



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Every user of the "Tex" Plunger Working Barrel finds after installing it in his worst well that it PAYS and it pays BIG. They then make it a practice to gradually equip every well on the lease with

"Tex" plunger Working Barrels

You will find upon installing a "Tex" in YOUR worst well that the number of pullings will be greatly reduced mostly because the "Tex" packs itself automatically. Packing difficulties no longer exist. Cup troubles are eliminated because there are no cups. The "Tex" does not cut oil. Less power is required. Less attention is required.

In other words EVERY point is favorable to the "Tex".

If you will try at least one "Tex" we know that you will be pleased and you will make this remarkable pump a part of your standard equipment.

Fill in the return coupon, mail to us, and we will send complete information without obligating you in any way.

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Books for Oil Geology

Historical Geology, By Charles Schuchert, Ph. D. This book shows the relationship of Historical Geology to Astronomy and Evolution, Biology and Oceanography. A discussion of Botany and Zoology is included. 724 pages, 6x9, 237 figures, 47 plates, 1 folding colored map. Cloth $4.50 postpaid.

Geologic Structures, By Bailey Willis. A description of Geologic Structures and the application of the principles of mechanics to their interpretation. The book is a textbook on structural geology for both elementary and advanced university study. A chapter on field methods and a section on graphical solutions of geologic problems have been included. 285 pages, 6x9, 130 illus. $3.50 postpaid.

Geology of the Non-Metallic Mineral Deposits Other than Silicates, by Amadeus W. Grabau. This book is essentially a treatise on applied stratigraphy. It is a handbook of salt geology. It is devoted to a study of deposits now forming or which have but recently been formed, and of the physical conditions which control such deposition. 434 pages, 6x9, 125 illustrations, $5.00 postpaid.

Geology of Petroleum, By William Harvey Emmons, Ph. D. A discussion of the origin, occurrence, accumulation and distribution of oil and gas. The book presents the salient facts relating to the geology of the world's principal oil fields with references to literature that describes them in detail. It offers a perspective of the geology of petroleum. The book will prove a valuable textbook to students and to the practicing geologist who is undertaking the study of a field new to him. 610 pages, 6x9, 254 maps and illustrations.
Price, net, postpaid .....$6.00.

Popular Oil Geology, By Victor Ziegler, Consulting Geologist, Second edition. For the man without technical or scientific knowledge in this branch of Geology. Here is a book which presents the fundamental principles of oil geology in simple, untechnical language—language which will appeal strongly to the layman who may be interested in oil geology from the practical standpoint, or for the sake of making investments. 171 pages, 5x7¼ inches, 62 illustrations, is flexibly bound.
Price, postpaid $3.00

Practical Oil Geology, By Dorsey Hager. The Application of Geology to Oil Field Problems. New Third Edition, two new chapters, one on Oil Shales, the other on Geological Field Methods and Instruments. 250 pages, pocket size.
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The National Supply Cos.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
W-K-M Company

Cement Hardener—
The Sullivan Company
W-K-M Company

Cement Head—
MacClatchie Mfg. Co.

Chain Blocks—
Yale & Towne Mfg. Company

Charcoal Iron Boiler Tubes—
The Tyler Tube & Pipe Co.

Control Heads—
Continental Supply Company
Southern Brass Mfg. & Plating Co.

Core Drills—
Acme Oil & Drill Company
Elliott Core Drilling Co.
Spengler Core Drilling Co.

Compressors—
Butler Mfg. Company
Continental Supply Company
F. W. Heitmann Co.
Hope Engineering Company
Sullivan Machinery Co.
United Iron Works, Inc.

Cordage—
D. F. Connolly Agency
Continental Supply Company
The National Supply Cos.
Republic Supply Company

Crown Blocks—
American Well & Pros. Co.
Baash-Ross Tool Company
Boykin Machinery & Supply Co.
Continental Supply Company
Gulf Coast Machine & Supply Co.
International Derrick & Equipment Company
Lufkin Foundry & Machine Co.
Oil Well Supply Company
Parkersburg Rig & Reel Co.
Superior Tube Co.

Couplings—
Continental Supply Company
Harrisburg Pipe & Pipe Bending Company
Steel Coupling Co.
Superior Tube Co.

Dehydrating Processes—
Wm S. Barnickel Co.
Petroleum Rectifying Co.

Derricks and Rigs—
International Derrick & Equipment Company
Lee C. Moore & Co.
National Turnbuckle Derrick Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Robertson-McDonald Lumber Co.
Superior Tube Co.

Diamond Core Drills
Sullivan Machinery Co.

Disc Bits—
Continental Supply Company

Ditchers—
Buckeye Traction Ditcher Co.

Draw Works—
Continental Supply Company
Lufkin Foundry & Machine Co.

Drilling Cables—
American Cable Co.
Bridgeport Machine Co.
D. F. Connolly Agency
Continental Supply Company
Frick-Reid Supply Company
The National Supply Cos.
Peden Iron & Steel Co.
Regan Forge & Engineering Co.
Republic Supply Company
Williamsport Wire Rope Co.

Drill Pipe Slips—
Baash-Ross Tool Company
Continental Supply Company

Drilling Machines—
Bridgeport Machine Co.
Continental Supply Company
Keystone Driller Co.
Parkersburg Rig & Reel Co.
Star Drilling Machine Co.

Drill Collars—
Baash-Ross Tool Company
Continental Supply Company

Drill Pipe Cutting—
Baash-Ross Tool Company

Drilling Tools—
Baash-Ross Tool Company
Continental Supply Company

Drill Pipe—
Continental Supply Company
Frick-Reid Supply Co.
Republic Supply Company
Reading Iron Company
Superior Tube Company

Drilling Equipment—
Baash-Ross Tool Company
Bridgeport Machine Co.
Continental Supply Company
Republic Supply Company

Drive Pipe—
Continental Supply Company
Republic Supply Company
Reading Iron Co.
Superior Tube Co.

Electrical Equipment—
Westinghouse Elec. & Mfg. Co.

Elevators—
Bridgeport Machine Company
Continental Supply Company
The Cunningham Company
Dunn Mfg. Co.
Gulf Coast Machine & Supply Co.
LeBus Rotary Tool Works
Wilson & Willard Mfg. Co.

Engines, Diesel—
Western Machinery Co.

Engines, Gas—
Continental Supply Company
Frick-Reid Supply Co.
Hope Engineering & Supply Co.
The Pattin Bros. Co.
Western Machinery Co.

Engines, Oil—
Continental Supply Company
Frick-Reid Supply Co.
The Pattin Bros. Co.
Western Machinery Co.

Engines, Pumping—
Ajax Iron Works
Bessemer Gas Engine Co.
Bridgeport Machine Co.
Continental Supply Company
The Brownell Co.
De La Vergne Machine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
The National Supply Cos.
National Transit Pump & Machine Company.
Oil Well Supply Co.
Peden Iron & Steel Company
Republic Supply Company
Rock Island Plow Co.
Southern Engine & Pump Co.
Titusville Iron Works
Western Machinery Company

Engineers—
David Donoghue
Foster & Reiter
Hope Engineering & Supply Co.
Lee C. Moore & Co.
Oil Conservation Engineering Co.
D. T. Ring

Fire Protection—
Continental Supply Company
Oil Conservation Engineering Co.

Fish Tail Bits—
Continental Supply Company
Frick-Reid Supply Company
Gulf Coast Mach. & Sup. Co.
Lucey Manufacturing Corp.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
W-K-M Co.

Floor Circle Brace—
Continental Supply Company
Dunn Mfg. Co.

Fuel Oil—
Gulf Refining Company
Sinclair Refining Company

Gas Engines—
S. M. Jones Company

Gas Traps—
Continental Supply Company
Smith Separator Company
Trumble Gas Trap Co.

Gasoline Extraction Compressors—
Bessemer Gas Engine Co.
Continental Supply Company
Hope Engineering & Supply Co.
Sullivan Machinery Co.

Gasoline and Oil Storage Tanks—
Butler Mfg. Co.
Graver Corporation
Continental Supply Company
Kansas City Struct. Steel Co.
Parkersburg Rig & Reel Co.

Gauges—
Continental Supply Company
Oil Conservation Engineering Co.

Generators—
R-F Electrical Mfg. Co.

Genuine Wrought Iron Casing—
Reading Iron Co.
Superior Tube Co.

Geologists—
Alexander Deussen
David Donoghue
Edwin B. Hopkins
Foster & Reiter
Heath M. Robinson

Grips and Clamps—
Continental Supply Company
J. P. Ratigan
W-K-M Co.

Heat Exchangers—
Brown Welding & Machine Co.
Hope Engineering & Supply Co.

Hoists—
Alamo Iron Works
Emsco Steel Products Co.

Hose—
Continental Supply Company
D. F. Connolly Agency

Houses—
Crain Ready-Cut House Co.

Laboratory Equipment—
Continental Supply Company
Fort Worth Laboratories

Lapwelded Steel Boiler Tubes—
The Tyler Tube & Pipe Co.

Lighting Systems—
Bridgeport Machine Co.
Continental Supply Company
R-F Electrical Mfg. Co.
Westinghouse Elec. & Mfg. Co.

Line Pipe—
Continental Supply Company
Republic Supply Co.
Reading Iron Co.
Superior Tube Co.

Lumber—
Robertson-McDonald Lumber Co.

Manufacturers—
Robinson Packer Co.

Maps—
Heydrick Mapping Co.

Meters—
Continental Supply Company

Motors—
Twin City Company
Westinghouse Elec. & Mfg. Co.

Oil Field Supplies—
Bridgeport Machine Co.
Butler Mfg. Co.
Continental Supply Company
D. F. Connolly Agency
The Cunningham Company
Frick-Reid Supply Co.
Graver Corporation
Gulf Coast Mach. & Sup. Co.
Erle P. Halliburton
International Supply Company
Kansas City Struct. Steel Co.
Lee C. Moore & Co.
Lucey Manufacturing Corp.
The National Supply Cos.
Oil Well Supply Company
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Pelican Well Tool & Sup. Co.
Republic Supply Company
Regan Forge & Engineering Co.
Robinson Packer Co.
Smith Separator Company
Southern Brass Mfg. & Plating Co.
Superior Tube Co.
United Iron Works, Inc.
W-K-M Co.

GUIDE FOR PURCHASERS—Continued

Oilwell Casing—
Continental Supply Company
Frick-Reid Supply Company
Republic Supply Company
Superior Tube Co.

Oil Well Cementing—
Erle P. Halliburton

Oil Well Shooting—
U. S. Torpedo Co.

Overshots—
Baash-Ross Tool Company
Continental Supply Company
LeBus Rotary Tool Works

Packers—
Continental Supply Company
The Guiberson Corp.
Layne & Bowler
Robinson Packer Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Rhodes Master Packing Co.
W-K-M Co.

Packing—
Continental Supply Company
D. F. Connolly Agency
Frick-Reid Supply Co.
The National Supply Cos.
Peden Iron & Steel Co.
Pelican Well Tool & Sup. Co.
Republic Supply Company
Rhodes Master Packing Co.

Paints—
Continental Supply Company
Peden Iron & Steel Co.

Panel Boards—
Westinghouse Elec. & Mfg. Co.

Patents—
Hardway & Cathey
Jack A. Schley
Jesse R. Stone

Pipe Grips—
Continental Supply Company
W-K-M Co.

Pipe—
A. M. Byers Co.
Continental Supply Company
W. E. Detlor
Frick-Reid Supply Co.
F. W. Heitmann Co.
Harrisburg Pipe & Pipe Bending Company
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Peden Iron & Steel Co.
Reading Iron Co.
Republic Supply Company
Superior Tube Company
Williamsport Wire Rope Co.

Pipe Screwing Machines—
Buckeye Traction Ditcher Co.
California Pipe Line Machine Co.

Pipe Threading Machine—
Standard Engineering Company

Pipe Wrenches—
Continental Supply Company
Dunn Mfg. Co.
The Guiberson Corp.
LeBus Rotary Tool Works
Republic Supply Company

Portable Buildings—
Butler Mfg. Co.
International Derrick & Equipment Company

Portable Compressors—
Continental Supply Company
Sullivan Machinery Co.

Portable Drilling Rigs—
Bridgeport Machinery Co.
Continental Supply Company
Lee C. Moore & Co.
Oil Well Service Co.
Parkersburg Rig & Reel Co.
The National Supply Cos.

Pulleys—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co.

Pulling Machines—
Clark Machine Co.
Continental Supply Company
Iron King Mfg. Co.
Safety Pulling Machine Co.

Pumps—
Axelson Machine Co.
Bradford Motor Works
Continental Supply Company
D. & B. Pump & Sup. Co.
Frick-Reid Supply Co.
Gaso Pump & Burner Mfg. Co.
Goulds Manufacturing Co.
Lucey Manufacturing Corp.
National Transit Pump & Mach. Co.
Oil Well Supply Co.
Pelican Well Tool & Supply Co.
Republic Supply Company
The Reschke Machine Works Co.
Southern Engine & Pump Co.
Texas Oil Pump Co.
United Iron Works, Inc.

Pumping Powers—
Continental Supply Company
Frick-Reed Supply Co.
International Supply Company
Jensen Bros. Mfg. Co.
Kansas City Hay Press Co.

Refined Products—
Gulf Refining Company
Humble Oil & Refining Co.
Sinclair Refining Co.

Recorders—
Fort Worth Laboratories

Refinery Equipment—
Butler Mfg. Co.
Continental Supply Company
Graver Corporation
Kansas City Struct. Steel Co.
Oil Conservation Engineering Co.
Republic Supply Company
Smith Separator Company
Titusville Iron Works
United Iron Works, Inc.
Wyatt Metal & Boiler Works

Refined Products—
Magnolia Petroleum Company
Texas Company

Rig Irons—
Continental Supply Company
International Supply Co.
Lee C. Moore & Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Company

Rotaries—
International Supply Company

Rotary Rock Bits—
Continental Supply Company
Hughes Tool Co.

Rotary Fish Tail Bits—
Continental Supply Company
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
W-K-M Co.

Separators—
Butler Mfg. Co.
Continental Supply Company
Smith Separator Company
Trumble Gas Trap Co.

Structural Steel—
Butler Mfg. Co.
Kansas City Struct. Steel Co
United Iron Works, Inc.

Steel Derricks—
Continental Supply Company
Emsco Steel Products Co.
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.
Superior Tube Co.

Steel Crown Blocks—
Continental Supply Company
Gulf Coast Mach. & Sup. Co.
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Steel Manufacturers—
Colonial Steel Co.

Steel Storage Tanks—
Butler Mfg. Co.
Continental Supply Company
Graver Corporation

Sucker Rod Lines—
D. F. Connolly Agency
Continental Supply Company

Sucker Rod Elevators—
The Cunningham Co.

Strainers—
Continental Supply Company
Emsco Steel Products Company
Layne & Bowler Co.
J. H. McEvoy & Co.
Pelican Well Tool & Supply Co.
W-K-M Co.

Sucker Rod Hooks—
The Cunningham Co.

Sucker Rod Sockets—
Bradford Motor Works
Continental Supply Company
The Cunningham Co.
Brown Welding & Machine Co.

Sucker Rods—
Axelson Machine Co.
Columbus Sucker Rod Co.
Continental Supply Company
D. & B. Pump & Sup. Co.
Dunn Mfg. Co.
Frick-Reid Supply Co.
S. M. Jones Co.
The National Supply Cos.
Oil Well Supply Company
J. P. Ratigan
Republic Supply Company

Swabs—
Continental Supply Company
The Cunningham Co.

Tank Bolts—
Continental Supply Company

Tanks—
American Tank Co.
Butler Mfg. Co.
Black, Sivalls & Bryson
Columbian Steel Tank Co.
Continental Supply Company
The Brownell Co.
Gantz Tank Co.
Graver Corporation
Kansas City Structural Steel Co.
Maloney Tank Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works
United Iron Works
Wyatt Metal & Boiler Works

Tank Deadwood—
Robertson-McDonald Lumber Co.

Tank Equipment—
Continental Supply Company
Oil Conservation Engineering Co.

Temper Screws—
Burns Tool Co.

Thermometers—
Continental Supply Company
Fort Worth Laboratories

Timbers—
Robertson-MacDonald Lumber Co.

Tongs—
Bridgeport Machine Co.
Continental Supply Company
Dunn Mfg. Co.
Guiberson Corp.
LeBus Rotary Tool Works
Pelican Well Tool & Supply Co.
Wilson & Willard Mfg. Co.
W-K-M Co.

Tool Joints—
American Well & Pros. Co.
Baash-Ross Tool Company
Boykin Machinery & Sup. Co.
Bridgeport Machine Co.
Continental Supply Company
Emsco Steel Products Co.
Hughes Tool Co.
Pelican Well Tool & Sup. Co.
Regan Forge & Engineering Co.
Republic Supply Co.
W-K-M Co.

Tools (Fishing and Drilling)—
Bridgeport Machine Co.
Brown Welding & Machine Co.
Continental Supply Company
Frick-Reid Supply Co.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
Sullivan Machinery Co.
W-K-M Co.

Toothless Slips—
LeBus Rotary Tool Works

Tractor Winch—
Rock Island Plow Co.
Twin City Company

Traveling Blocks—
Baash-Ross Tool Company
Boykin Machinery & Sup. Co.
Continental Supply Company
Gulf Coast Machine & Sup. Co.
Lufkin Foundry & Machine Co.
Regan Forge & Engineering Co.

Tret-O-Lite—
W. S. Barnickel & Co.

Tubing Catcher—
Continental Supply Company
Dunn Mfg. Co.
Guiberson Corp.

Tubing Lines—
Continental Supply Company
D. F. Connolly Agency

Tubing—
Continental Supply Company
Republic Supply Company
Reading Iron Co.
Superior Tube Co.

Underreamers—
Bridgeport Machine Co.
Continental Supply Company
Wilson & Willard Mfg. Co.

Vacuum Pumps—
Continental Supply Company
Sullivan Machinery Co.

Valves—
Bradford Motor Works
Continental Supply Company
Darling Valve & Mfg. Co.
The Charles N. Hough Mfg. Co.
Texas Oil Pump Co.
Ludlow Valve Mfg. Co.
Oil Conservation Engineering Co.
The Wm. Powell Co.
Pratt & Cady
Reading Steel Casting Co.
Reading Valve & Fittings Co.
Smith Separator Company
Sour Lake Machine Co.
Southern Brass Mfg. & Plating Co.
Westcott Valve Mfg. Co.
W-K-M Co.

Valves and Fittings—
Continental Supply Company
Darling Valve & Mfg. Co.
D. & B. Pump & Sup. Co.
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co.
The National Supply Cos.
Peden Iron & Steel Co.
The Wm. Powell Company
Pittsburgh Reinforced Brazing and Machine Company
Pratt & Cady
Republic Supply Company
Reading Steel Casting Co.
Reading Valve & Fittings Co.
United Iron Works
W-K-M Co.

Walking Beams—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.

Welding and Cu .ng Equipment—
Continental Supply Company

Working Barrels—
Axelson Machine Co.
Brad .rd Motor Works
Continental Supply Company
D. & B. Pump & Sup. Co.
Republic Supply Company
The Charles N. Hough Mfg. Co.
Southern Brass Mfg. & Plating Co.
Texas Oil Pump Co.

Water Gauges—
Continental Supply Company

Water Cans—
Continental Supply Company
H. P. Gott Mfg. Co.

Wire Rope—
American Cable Co.
Bridgeport Machine Co.
D. F. Connolly Agency
Continental Supply Company
International Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
The National Supply Cos.
Williamsport Wire Rope Co.

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Special oil field steel—double strength. No weld—no weakness. No piping—no leaks. Accurate threads—perfect taper—uniform—dependable.

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Superior Tube Company, Tulsa, Okla.

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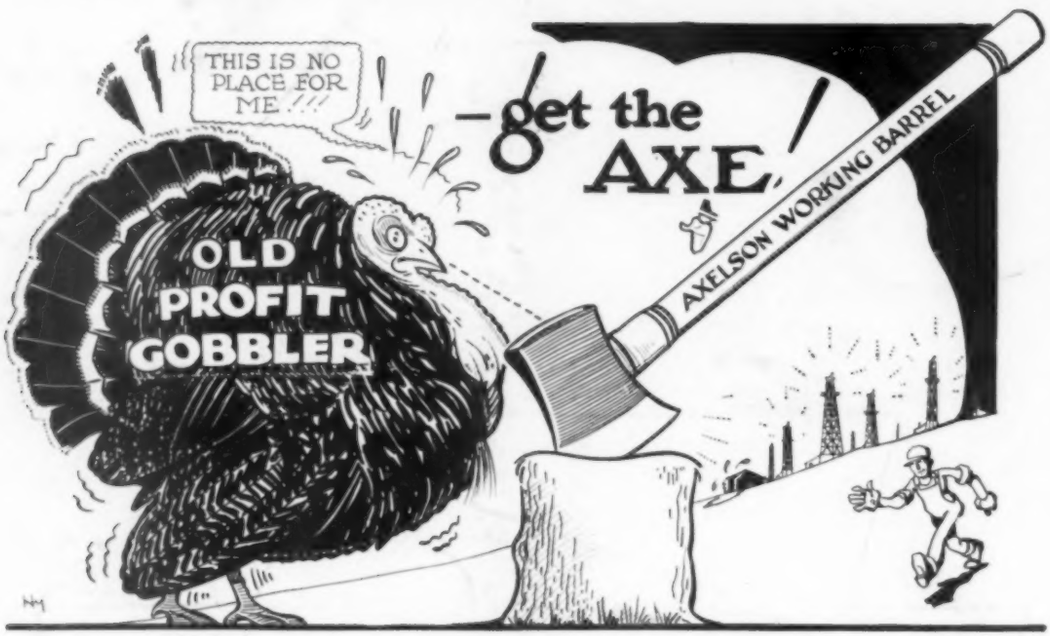

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